PurchasingWorld

THE BUYER'S MAGAZINE *NOVEMBER 1989*

DOMINO'S PIZZA

Domino's president
Don Vlcek (left)
fills new box for
Purchasing Director
Jim Caldwell

Purchasing finds packaging solution

Negotiations: there's no end to them • Price hikes seen slowing.

Commodity reports • Big spenders get big wheel treatment.

PW SURVEY
Tell us what you think about imports.

CONTENTS

November, 1989 Vol. 33, No. 11

COVER STORY

35 **Domino's goes to camp for packaging solutions**
The purchasing department at Domino's works with suppliers in get-togethers called camps, and in the recent case of Stone Container came up with a packaging design that saved material (and money) while doing a better job.

37 **Packaging price hikes taper off**
According to a Wharton Economics (WEFA) survey, buyers won't be seeing significant increases in what they have to pay for packaging materials in 1990.

38 **Packaging buyers gaining more clout**
Our exclusive survey shows that buyers are finding themselves in good negotiating positions when it comes time to purchase packaging.

FEATURES

25 **Big spenders get big wheel treatment**
In office buying, purchasing pros at larger companies can get some sweet concessions from major manufacturers with national account programs.

Teamwork at Domino's has paid handsome dividends for all concerned. Page 35

Buyers aren't limited in their opportunities to sue vendors whose equipment doesn't perform. Page 44

In office buying, equipment manufacturers are offering special status for national accounts. Page 25

29 **Price hikes seen slowing**
These are trends to make a buyer's heart glad—research shows that most commodity prices will rise only moderately into 1991.

32 **Buying in a ZD environment**
Imagine being a buyer at Phillip Crosby Associates—where everything, including buying—is Zero Defects. It can be done!

34 **PM's role more important**
In terms of control of dollars spent by U.S. corporations, purchasing managers have an increasingly large percentage share of the action.

41 **No end to negotiations**
Columnist Lou DeRose demonstrates that even after the deal is struck, negotiating isn't over—when it comes to negotiating, the fat lady never sings.

42 **A solution to unfiled rate claims**
In the past court decisions have gone both ways on this issue—and no one knows where they stand. Can we get a rebate or can't we? It looks like the matter will finally get resolved.

44 **Liability and the vertical chain**
Law columnist John Murray explains why a buyer can sue more than just the vendor of the rejected goods he wound up with—the vendors to that vendor are liable, too.

PurchasingWorld

PW POINTERS

Little hazardous waste creates big headache

Generating small amounts of hazardous liquid waste can sometimes create a bigger headache than spewing out a river of refuse. Disposal for the large waste generator becomes a way of life while firms that have only a little waste have trouble finding anyone to bother with their problem.

Safety-Kleen Corp., Elgin, IL, may have the solution. Its Fluid Recovery Service specializes in picking up and disposing of as little as one or two barrels of liquid hazardous waste. In their operation, the firm analyzes the waste and then arranges to pick it up at regularly scheduled intervals. Depending on content, the material is either recycled, processed into a chemical fuel for use by another firm, or disposed of.

Written certification of proper handling and disposition is provided to meet federal and state regulations.

"Grease Jockey" lubes trucks on the go

Maintaining truck fleets has just become easier. On-board centralized lubrication systems which depend on compressed air have been extended to electric power.

Lubriquip Inc., Cleveland, has taken its original air-powered Grease Jockey and adapted it to be run on the vehicle's battery. The electric-motor driven system permits class 5, 6, and 7 vehicles that are not equipped with air compressors to be fitted with a central lubrication maintenance system. The electric version produces 1,250 psi which pushes greases through distribution lines to up to 100 points at a time.

The Grease Jockey dispenses the lubricant at pre-set time intervals—from 1 minute to 6 hours—automatically, thus eliminating the need for manual lubrication which requires manpower and involves taking the equipment out of service.

"All fleet owners whether their trucks have compressors or not, can now obtain an automatic chassis lube system to meet their specific maintenance needs," claims James R. Pugh, Lubriquip marketing vice president. He indicates potential applications include pickup and delivery fleets such as beverage and parcel trucks; certain front-end loaders; and street sweepers.

Computer helps you tap British market

If you are interested in tapping European suppliers but don't know where to start, most countries have a computerized system similar to that developed by the United Kingdom. Its Export Intelligence Service (EIS) puts overseas buyers in touch with UK manufacturers and exporters quickly. Access to such a service is made through the Commercial Dept. of the British embassy or consulate office located in 12 major cities spread across the United States.

Details of your requirements are telexed into the EIS computer system and matched to the individual interests of more than 6,000 firms and 80 trade associations who subscribe to the service. The interested UK firms can then contact the inquiring firm directly.

British firms identify their markets and products specifically to minimize wasted time because of misinformed leads, the British government contends.

Quality assurance goes cooperative

Meeting the quality assurance needs of your customers can become a real problem in keeping business, particularly for the smaller firm.

IQS Inc., Cleveland, has what it claims is a potential solution. It has organized a Manufacturing Quality Assurance Cooperative. Membership is limited to 200 companies. The entry fee is $500 in addition to a $500 quarterly charge for a two year period. According to IQS, members receive a two-year strategic quality improvement plan, a quality manual, technical workshops, computer software, and a satisfaction guarantee.

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PW PREDICTS

by Robert S. Reichard, executive editor

PMs report more price declines

It sounds almost too good to be true. But industrial purchasing managers have been reporting more price declines than increases for four consecutive months now.

Upshot: the widely monitored NAPM (National Assn. of Purchasing Management) price barometer which averages increases and decreases is now well below the neutral 50 mark—and at latest report was at its lowest level in nearly 3.5 years.

On a product-by-product basis, some 25 manufactured items were reported as being lower in price over the past month (*versus* only nine which were listed as being higher). That's not all that much difference from the previous month when 29 items were lower and only nine higher.

Lending further credence to the feeling that inflation is on the wane are:

1) Recent declines in commodity prices—with *PW's* raw material price barometer off some 2.5% from spring peaks.

2) A similar third quarter 1989 falloff in Uncle Sam's more comprehensive industrial producer price index.

3) Relatively restrained unit labor cost increases which look to remain in the tolerable 4.5% range into 1990—and even lower if you zero in on the manufacturing sector.

4) The increasingly cautious price tone now being voiced by manufacturers.

On the latter score, a new Dun & Bradstreet survey finds that only 39% of queried factory executives see this quarter's selling prices above a year ago. That's a seven percentage point drop from last fall when a similar question was posed.

Equally encouraging: the inflation slowdown may be due to more than just the current mild deceleration in overall GNP growth. Certainly today's slow monetary growth has to be considered a factor. Recently in the 3% range, it's a far cry from the 10% peak recorded as recently as early 1987.

Then there's ample capacity—something of a surprise after nearly seven years of solid advances. In any case, factory utilization remains below the 85% level that normally triggers off shortages. And the rate is likely to hold at current levels, or even fall a bit, as U.S. capital spending rises an estimated 10% this year.

Nor is this improved supply availability limited to the U.S. Big capacity increases are also reported in Japan, South Korea, Germany and a host of other industrial countries. Point to keep in mind: as the supply side of the global economy expands, competition should intensify, thereby keeping a further lid on inflation.

The somewhat stronger dollar noted of late is still another factor likely to help keep down the average price level. Other things being equal, it enables Americans to buy foreign goods more cheaply and at the same time tends to sharpen the already strong import competition faced by American vendors.

This import competition is perhaps best illustrated in the auto sector. In any case, while sticker tags have jumped anywhere from 6-8% on average, the typical buyer is paying little more than he did last year—thanks to the proliferation of cash rebates.

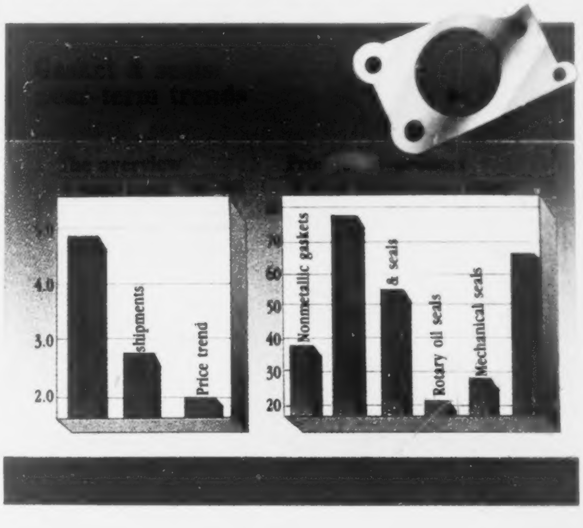
And what's true of family purchases is equally true in the industrial sphere—as increased price shading keeps transaction prices from rising. This discounting is pretty endemic now—embracing such key procurement areas as plastics, steel, chemicals, paper products, and electronic components.

Finally there's the energy factor. OPEC is having trouble holding on to its current low $15/barrel price. This can't be underestimated as an inflation inhibitor. Reason: energy not only has a cost impact on every single industry, but it also has a strong psychological effect. It's no coincidence, for example, that the two big rounds of inflation over the past 20 years coincided with double and triple-digit oil price runups.

Gasket prices up slightly

Look for the gasket and seal industry to grow at a relatively modest pace—just about in line with the general economy. More important from the purchasing angle—price increases should be quite small—actually under the overall GNP inflation rate through the next five years.

On the price front, for example, a new Freedonia Group study projects only a 2% overall annual rate of increase over the 1988-93 period (see chart). The Cleveland-based research firm credits this restraint to strong competition—spurred on by foreign inroads and less-



than-average industry concentration (the four top producers account for only one-fifth of all products shipped.)

Coming back to demand—continuing increases will be sparked by the transportation and machinery markets, and equipment upgrading. All told, average annual gains through 1993 should come to around 4.9% in current dollar terms and 2.8% in real or deflated terms.

On a product basis, the biggest advances are seen in the metallic gasket and compression packings categories where annual current dollar increases of 7.8% and 6.8% are forecast.

Strength in metallic gaskets is based on the acceptance of improved products by the aerospace and process industries. Compression packings will benefit from growth in pumps, utilities, and a rebounding steel industry.

A slower 3.9% average annual advance is seen for nonmetallic gaskets (the largest subcategory). Molded packings and seals, meantime, will enjoy above average growth due to the advantage of their "automatic" nature in many applications. But current dollar gains in both rotary oil seals and mechanical seal shipments will be under 3% a year.

Viewed from an end-use perspective, OEM requirements will be the fastest growing—driven by export strength in the machinery and electronic equipment markets. The less cyclical MRO market, however, will remain the largest (57% of total shipments) bolstered by transportation equipment, servicing and rebounding mining markets.

Software cuts prices further

Competitive pressures are making for softer prices, with another 5-10% expected to be shaved off the average quote over the next 12 months. Adding to weakness: disappointing growth as dollar sales over the latest quarter run only 9% ahead of a year ago (compared to the 41% jump of a year earlier). Especially vulnerable are older packages. Also worth noting: software makers are updating some of their offerings so they do more work on less powerful PCs. Examples: Lotus' Release 2.2 of its 1-2-3 program and Ashton-Tate's simpler version of dBase IV.

PC prices keep buyers awake

Falling prices and new innovations continue to keep buyers on their toes. On the price front, IBM has cut tags on some of its older PS/2 models anywhere from 6-20%. Meantime, Hewlett-Packard expects to start shipping new machines in early 1990 that use the new Extended Industry Standard Architecture (EISA)—an alternate to IBM's Microchannel standard used in the firm's PS/2 line. And elsewhere, Compaq has unveiled its new notebook-sized computer—a lightweight, battery-driven portable that is expected to challenge Zenith MiniSport.

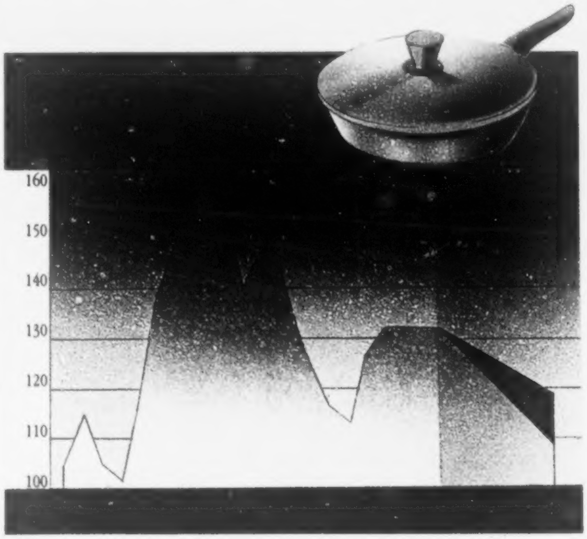
Copper prices stay high

CURRENT SITUATION: Recent market rallies have been fueled by strike interruptions rather than any underlying supply imbalance. Six months ago the conventional wisdom had today's price at around $1/lb. But with all the unexpected work stoppages—plus somewhat stronger-than-expected demand—the red metal remains far higher. **Adding to the upward pressure are razor-thin global inventories** (now under a 4-week supply.)

DEMAND: While worldwide consumption gains have slowed down somewhat, usage is still higher than a year ago. Thus based on year-to-date figures, **U.S. chewup could be up as much as 4% this year. And for the world as a whole, the gain looks to be somewhere in the order of 2%**—not all that much under 1988's estimated 2.7% advance. One reason for the rather good showing: the metal historically has been the last commodity to fall when the economy slacks off.

SUPPLY: It's been a rough year to predict—given all the labor problems. As recently as June, for example, the industry was talking in terms of a small 1989 surplus. Not so any more. **But better balance is coming** (assuming current problems can be resolved)—**perhaps as early as the first quarter of 1990.** Aiding the trend will be about a 3% increase in U.S. production—sparked by use of the low-cost solvent extraction-electrowinning (SX-EW) process.

PRICE OUTLOOK: Calling the run on the historically volatile metal is never easy. But assuming better balance is achieved on target, then **some 10-20¢/lb. could be whittled off today's inflated quote by early spring.** Even that, however, is a relatively high price. The SX-EW process, for example, has allowed Phelps Dodge to bring costs down to 55¢/lb.—far under the 80¢/lb. level of just five years earlier. **In short, both cost and supply/demand considerations point to lower tags .**



Pollution, safety costs, go up

The buying of non-productive equipment (notably for pollution control and safety) could be requiring a good deal more of the average PM's time in the months ahead. The evidence:

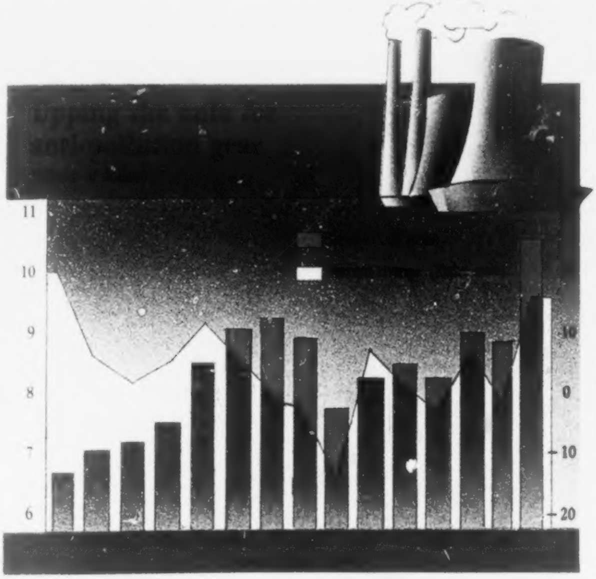
- **Pollution control:** A new DRI/McGraw-hill survey suggests outlays on new plant and equipment for pollution abatement will jump 18.4% this year—a major change from the cutbacks of the past few years.
- **Safety gear:** The Labor Department has announced plans to revise its 20-year-old safety standard for protective equipment to benefit 22 million Americans who need to wear hardhats, face shields, safety glasses, and safety shoes on the job.

Uncle Sam's regulators figure that the updated safety standards will cost industry and labor $28.3 million annually for improved personal safety equipment. In any case, OSHA studies show that 2.8 million workers, or 12.8%, who should be wearing personal safety gear currently do not.

Coming back to pollution control, the new DRI survey observes that spending is due for a prolonged upswing—with much of the impetus coming from the recent spate of re-authorizations (including the 1986 Safe Drinking Water Act, the 1986 Superfund Act, and the 1987 Clean Water Act) that are tightening compliance requirements.

Moreover, concern over acid rain damage, unusable beaches, and oil spills are intensifying pressure for further safeguards. Witness the Bush Administrations' proposed strengthening of the Clean Air Act that will ad another $14-18 billion annually to overall investment.

Industries expected to show bigger-than-average 1989 increases in anticipated pollution control equipment include steel (up 39%), autos (84%), aircraft (21%), fabricated metals (30%), stone-clay-glass (33%), paper (63%), rubber and plastics (22%) and textiles (34%).



Excess paper drops prices

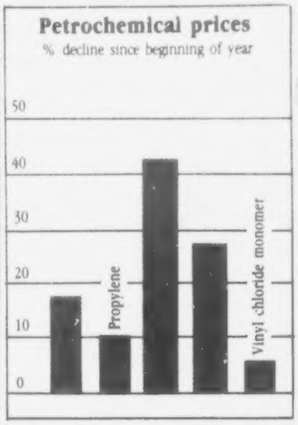
Price declines have become fairly widespread—with excess capacity rather than demand being the prime mover. Over the past month or two, slippages have been reported in newsprint, uncoated free sheet, carbonless paper and corrugated medium. Pulp, too seems to be peaking out as buyers already get about $20/ton off list on hardwood types. And more significant drops are expected in the overall pulp market—as capacity grows 4% a year through 1993, substantially above the estimated 2.8% demand rate.

Sulfur prices close capacity

Plummeting prices are forcing the shutdown of some Frasch producer capacity. Sign of the times: Gulf Coast tags are now in the $80-85/ton range—a sharp 40% under levels prevailing less than a year ago. Behind the easiness: a recent decline in fertilizer demand plus increased competition from Canadian recovered sulfur. According to some estimates, north-of-the-border material is selling for a discount of more than $10/ton below Gulf-area sulfur.

Petroleum keeps slipping

The sharp price declines of earlier this year are still the order of the day. Developments over the past few months or so include another 3¢/lb. drop in ethylene (to 28¢/lb.), another 2¢/lb. drop in chemical grade propylene (to 18¢/lb.), and another 4¢/lb. drop in styrene (to only 36¢/lb.). Upshot: these three basic building blocks are now 18%, 10% and 28%, respectively, under beginning-of-year levels. And all this softness should carry over into 1990 on a combination of low crude oil tags and decelerating end use growth (particularly in the plastics area).

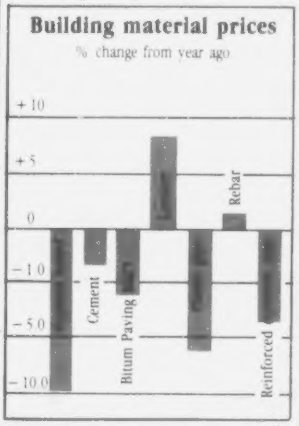


Basic resin heads south

Polyethylene terephthalate, the basic material for most plastic bottles, is heading south. Some 4-5¢/lb. has been whittled off quotes so far this year—and further erosion is likely if feedstock costs continue to decline. Another weakening factor: increased competition from glass in 12 ounce bottles. In any event, demand will be up only 2% this year—a far cry from last year's big 16.5% jump. Combine this with capacity additions, and it's easy to see why utilization rates are down in the 75-80% range.

Building products off

Prices for most metal products are leveling off after last year's big boosts. Example: rebars, which were topping year-earlier levels by 9% in January, are now running only 1% above a year ago. And some products are actually down. Plastic pipe, for example, now averages 6.5% under a year ago. Also weak is gypsum where wallboard tags this year are expected to average out at only $81/thousand square feet—off significantly from last year's $90.50 figure. But softwood lumber continues to buck the easing trend and is currently running 8% ahead of 1988.



Zinc demand falls slowly

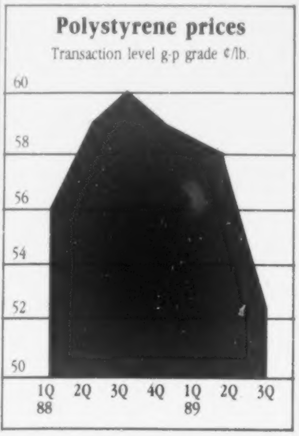
Downward pressure should become evident by early next year—as demand for corrosion-resistant galvanized steel used in cars slowly falls. Combined with some rise in output, this should make for an increase in producer inventories. Indeed, global stocks are already 18% above a year ago. All this is bound to make for softer prices—with tags for the upcoming year expected to average 65-70¢/lb.

Can aluminum go still lower?

Conditions may be ripe for still lower prices. Certainly, there is little chance of any bounceback to the $1.13/lb. peak of earlier this year. Reason: the supply/demand balance has shifted, (75-80%) rates are anticipated for 1990 as demand slackens and another 6.5-7% is added to industry potential.

Polystyrene prices soft

Polystyrene price tags are weakening, with the general purpose/crystal grade now moving in the 49-51¢/lb. range—off a full 10¢/lb. from year-earlier levels. Credit the slippage to sharply lower feedstock costs and vastly improved market balance. On the latter score, the industry this year will probably operate at only 82% of its potential—*versus* 87% in 1988. And even lower (75-80%) rates are anticipated for 1990 as demand slackens.



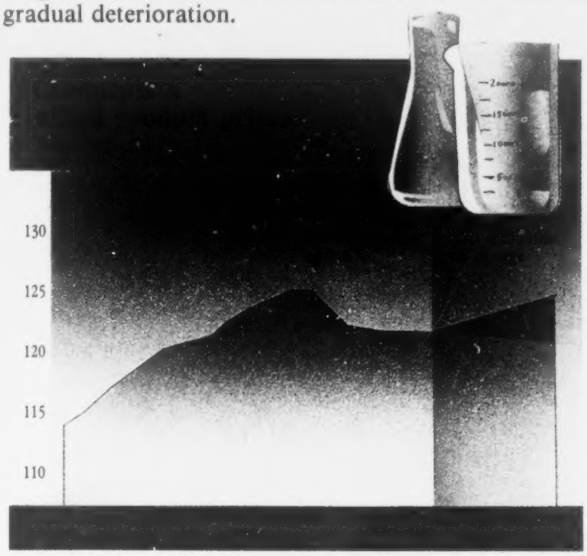
Chemical prices flatten

CURRENT SITUATION: The price curve is flattening out. Credit the respite to a combination of lower operating rates (87% at latest report *versus* 89-90% at the beginning of the year) and somewhat less ebullient demand. And there have been some price declines, too—**most notably in the petrochemical area where lower tags are being sported by ethylene, propylene, phenol and styrene. Resins haven't escaped unscathed either**—with drops reported in virtually every major thermoplastic over the past few months.

DEMAND: A respectable 5% gain in real output is seen for the current year—down from last year's 8.5% jump but still ahead of the general economic advance. Behind the deceleration: a combination of a slower growing GNP, easing exports (an area accounting for 35% of total industry shipments), and a modest inventory correction which is putting a temporary damper on new purchases. Looking further ahead—**next year's output is likely to decelerate further—to about 3%.**

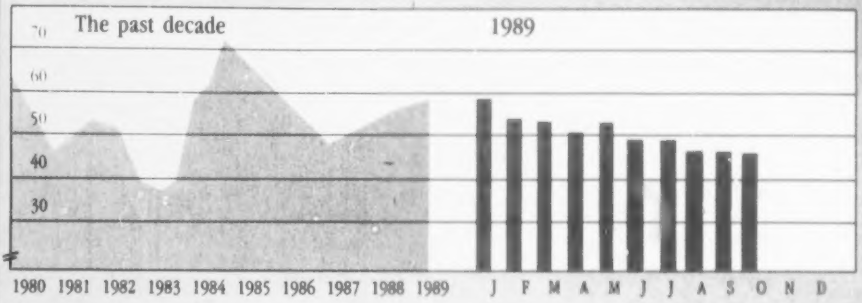
SUPPLY: Factory utilization rates are likely to continue their slow decline—thanks to huge new plant and equipment investments. This year, for example, capital outlays are expected to add an impressive 7% onto the industry's overall production potential. And preliminary indications point to another 5.5% capacity jump next year. Far in excess of current demand projections, **this suggests a several point drop in the industry's overall operating rate.**

PRICE OUTLOOK: Buyers should increasingly be in the drivers seat. In any case, it's hard to see any significant advance—given both the above supply/demand outlook and the likelihood that a continuing oil glut will put a cap on petrochemical feedstock tags. **Best bet: a mixture of declines and increases should keep price averages constant over the next few months.** But look for gradual deterioration.



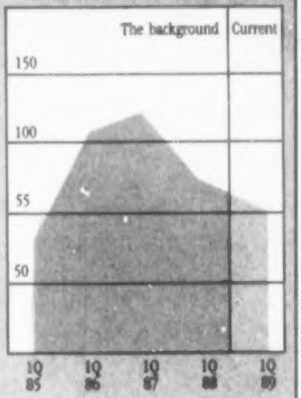
N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)

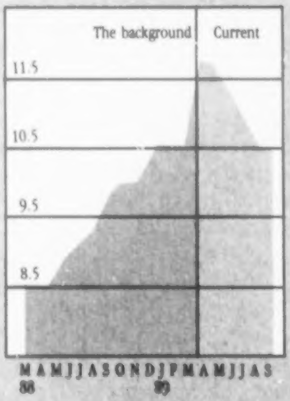


Leading indicators

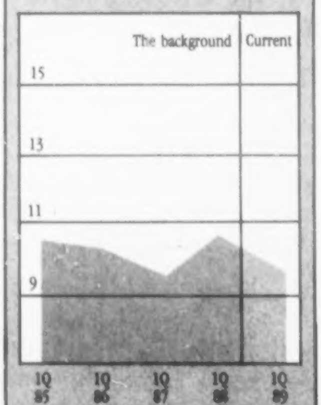
1) Net real imports
Millions of units, seas. adj. annual rate



2) Prime interest rates
Percent



3) Auto sales
Billions of $, seas. adj. annual rate



KEY ECONOMIC TRENDS

1990 looks good, dip comes in '91

Depressing economic news is creating much anxiety in the business world but not to worry. Brian Beaulieu, president, ITR Associates Inc., Contoocook, NH, says "1990 will be fine, it's 1991 you should be worrying about." He is "anticipating better times in 1990 than what you are going through right now."

The consulting arm of the Institute for Trend Research, ITR told an economic outlook seminar in Manchester, NH, the trends it is tracking are currently shifting from negative to positive and 1990 will be a reasonably healthy year. It told attendees to "stand ready to capitalize on the positive changes anticipated for 1990, while at the same time being sensitive to the probability of economic contraction."

That contraction, ITR predicts, will be a classical, across-the-board, recession starting in the 3rd quarter of 1990 with a peak in industrial production coming in July or August. He sees the recession reversing itself by year-end 1991 with 1992 being a "good year, witnessing a normal strong recovery with that rising trend continuing until 1993." It'll be, Mr. Beaulieu contends, a dip which will be longer, but dynamically about the same as in 1981.

ITR sees total U.S. industrial production next year up about 4.2% (see table on how that compares with other countries) but slipping in 1991 by 2.6%.

The good news is that inflation should continue to be moderate for the next two years. It'll finish this year in the 4.6-4.9% range and slump to the 3.4-4.4% range in 1990. ITR contends the recessionary year of 1991 will see even less inflationary pressure and may even witness some raw material price declines. Beyond that, ITR sees inflation rearing its ugly head again in 1992 and grow to become a national problem by 1994-95.

The trend watchers' analysis of short term interest rates (see chart) is less positive. It sees them dipping to a 1989 range of 8.53-8.68% but advancing as much as 75 basis points by the second quarter of 1990. Rates of more than 10% are expected by 1990's fouth quarter. The level of long term rates is not expected to change significantly, ITR reports.

Other ITR predictions:

- Passenger car sales (see

1990 world economic outlook

Percentage rate of growth in...

	Inflation	Industrial production
Japan	2.9	7.9
United States	3.9	4.2
Canada	5.3	4.1
Germany	2.1	3.9
Italy*	5.7	3.5
United Kingdom	5.2	1.5
France*	2.5	1.1

*Lower rate of growth than in 1989
Source: ITR Associates, Inc.

chart) this year will slip to the 7.007-7.223 million unit range and decline further in 1990 to a range between 6.488 million and 6.759 million units. A dip to below 6.682 million units would reflect the lowest production performance since 1983

- Housing starts this year will end up in the 1.43-1.47 million unit range. By mid-1990, they'll trend up slightly to a range of 1.47-1.52 million units but again slump by year-end 1990 to the 1.42-1.47 million range.

How government salaries compare

How much do purchasing managers earn these days?

The definitive answer will come next month when *Purchasing World* releases its new annual wage survey. Meantime, here are some tentative estimates—based on two other recent studies:

- **Uncle Sam:** The Labor Department, which uses this past March as a cut-off date, divides buyers into four categories. The top group (Level IV), types who are responsible for purchasing technically complex, often custom-made items, average $46,058 a year.

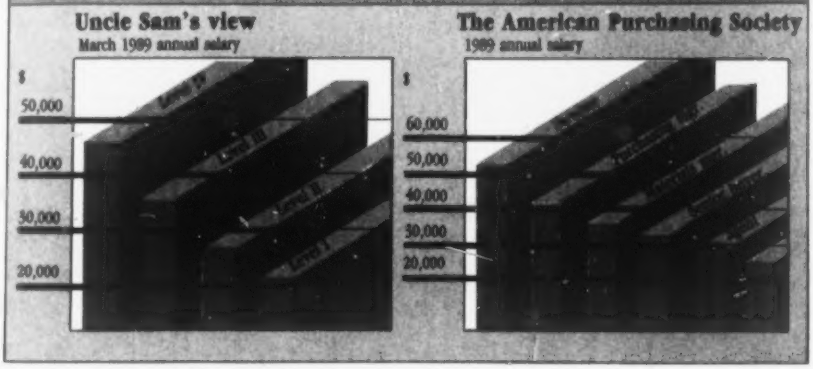
On the other hand, those at the lowest end of the ladder (Level I), types who are purchasing commonly available "off-the-shelf" items from local sources, earn only $23,013 on average.

- **The American Purchasing Society:** This Port Richie, FL-based outfit shows a salary average of $25,700 for the low-end buyer category—not so much different than the government's bottom level. The highest paid executives (directors of purchasing) pull down $53,900—again not all that different from the government estimates for its top-level purchasing group.

Comparisons with two years earlier (1987) are also given by the Florida group. The top-level directors show the biggest gain (30%) over the two years. And those dubbed "purchasing managers" reportedly are getting about 15% more.

On the other hand, low-end buyers for the most part are hard put to equal much less surpass their 1987 salaries. And so-called "purchasing agents" actually show a modest decline over this same two-year period.

1989 purchasing salaries: A preliminary look



CURRENT PRICES

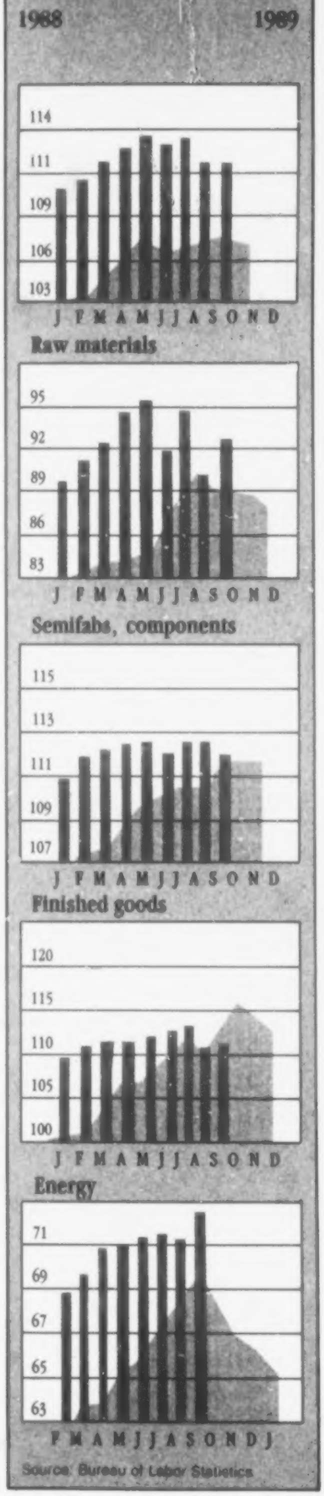
Inflation remains under control

Industrial producer prices inched up a bit last month, but a good part of this was due to a jump in energy tags. Subtract this out, and the overall advance was negligible—with the non-energy average still running under late spring levels.

More important, preliminary information suggests a continuing of this relatively optimistic trend for the current month. One reason: energy quotes are now starting to level off. Also on a positive note—a substantial number of declines are still appearing in *PW's* monthly tabulation (see accompanying table). Roughly one out of every five items monitored is still edging lower.

Indeed, some price declines even managed to creep into the energy sphere where residual oil dropped a significant 3.5% over the past month. On the other hand, this was more than offset by boosts in gasoline, home heating oil, natural gas, diesel fuel and crude oil. Upshot: overall energy

Industrial prices
(Index: 1982 = 100)



Source: Bureau of Labor Statistics

tags were up a solid 2.6%.

Capital goods also advanced during the past month. But blame part of this on the introduction of higher-priced 1990 models. Other items were more mixed—with increases in construction machinery and transformers offset by lower quotes on textile machinery and communications equipment.

Metals also showed diverging trends. Aluminum and nickel were down, but copper was up. And while steel lists moved up, reports of discounting (not reflected in government price indexes) probably brought actual transaction prices down.

The best news as far as buyers are concerned is centered in the chemical and allied product areas where softness has appeared in inorganic chemicals, organic chemicals, plastic resins, and manmade fibers.

Paper also remains on the easy side. Items reported lower here include paper bags and shipping sacks. True, fine paper lists have bottomed out. But this ignores current heavy official discounting in uncoated free sheet.

To sum up—the inflation picture, as measured by Uncle Sam's price watchers, remains under control. And while government spokesmen usually don't make forecasts, they're now hinting at only a modest 2-3% annual rate of rise in overall industrial producer prices over the next 3-6 months.

Distribution costs drop

There's some encouraging news on the distribution cost front. Outlays for such key services as warehouse space, order processing, transportation, inventories, and labor are declining—at least when expressed as a percentage of sales.

A new Davis Database study found this key ratio was down a significant 11.9% last year.

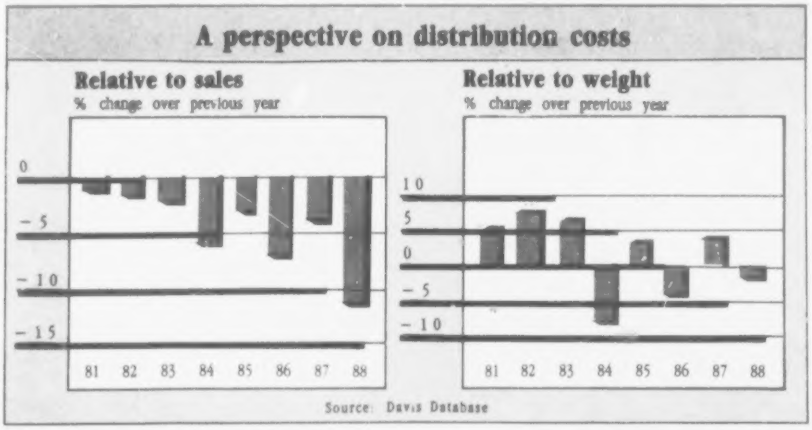
Nevertheless, the Englewood Cliffs, NJ consulting firm sees little room for complacency—noting that another one of its ratios (cost per hundredweight) has been holding rather constant in recent years. Davis Database's conclusion: much of the near-term improvement in the sales ratio may be due to higher selling prices rather than to any "real" or physical improvement in distribution.

One big potential area for cost reduction, says Davis Database, is warehousing. Worth exploring in this sphere: a shift away from owning one's own facilities and toward "contract warehousing" whereby the company gets dedicated space, labor and management without the cost burdens of ownership.

The new study also cautions that the all-industry ratio can be deceiving—with major variations occurring within industry groups. On a percent of sales basis, the lowest ratio is noted in the high value (over $15/lb.) pharmaceutical category where only 3.62¢ per each dollar of sales goes for distribution.

In the manufacturing sector, however, durable distribution costs average out in the 7-8¢ per-dollar-of-sales range. Nondurables are clocked in at only slightly lower 5.5%.

Distribution costs on a dollar/cwt basis show similar wide variation. In the manufacturing area, for example, they range from $9/cwt for industrial nondurables to over $29/cwt for consumer durables and over $35/cwt for industrial durables.



Source: Davis Database

PROCUREMENT STATUS REPORT

Leadtimes drop to new low

The nation's big industrial buyers are increasingly calling the signals these days—as a combination of a flattening production curve and still-rising capacity makes for an improving supply situation.

The NAPM (National Assn. of Purchasing Management) vendor delivery index, for example, dropped to 43.8 last month—the fifth consecutive decline to the lowest level in nearly 7.5 years. It means speedups are now running well ahead of slowdowns—a sure-fire sign of improved availability.

Easing markets are further confirmed by the fact that only eight items are now on the NAPM short-supply list—down from 12 the previous month and less than half the 20 or so reported tight as recently as this past spring.

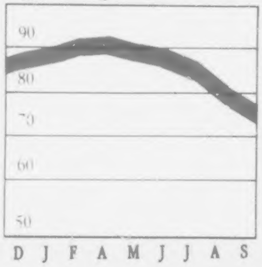
Conspicuous by their absence are such key product lines as steel, aluminum, plastic resins, most chemicals, and electronic components. On the other hand, there are still some problem areas—most notably in bearings (listed for the 14th straight month because of anti-dumping actions) and castings (listed for the 10th time in 13 months).

And if still more confirmation of softening is needed, take a look at *PW's* leadtime index which dipped to 47. That's three percentage points under the neutral 50 mark—and reflects shrinking leads on a growing number of items.

Not surprising, all this

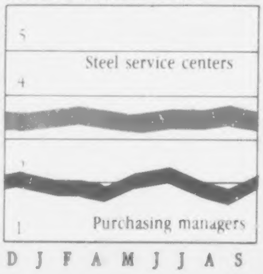
Steel

Operating rates



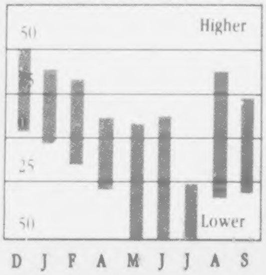
Inventories

(Months supply on hand)

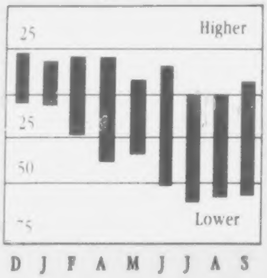


Demand (STEEL SERVICE CENTERS)

(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute, NAPM Steel Buyers Committee

has also translated into easier prices. Specifically, the NAPM price increase index has dropped to 43.1 (with 50 again equalling neutral)—and currently is holding at its lowest level in more than three years.

Queried PMs add that these lower quotes, combined with expectations of further erosion, are also prompting them to keep a tight rein on inventories. In fact, these holdings have been falling steadily now for nine straight months.

Where do we go from here? Judging from current capacity and production projections, this easier trend should persist into early 1990—accompanied by further shrinkage in leads and continued price softness especially in such demand-sensitive areas as raw materials and semi-fabricated goods.

STEEL SCENE

Hope for steel pickup fading

Hopes for even a modest pickup in steel demand this fall are beginning to fade.

Distributors and steel buyers are pretty much agreed on this. Indeed, both groups are now expecting a less rosy demand trend than they did just one month ago.

Purchasing managers responding to the latest NAPM (National Assn. of Purchasing Management) steel survey are perhaps the more gloomy. An impressive 61%, for example, expect to reduce their purchases of metal during the current (4Q)—far outweighing a minuscule 9% who feel some acceleration may be in the cards.

True, the gap between bullish and bearish distributors responding to the latest Steel Service Center Institute (SSCI) survey isn't quite as dramatic (34% see declines *versus* 23% who are hopeful of increases).

The reasons for the less buoyant outlook are not all that hard to find—with reduced auto production probably being the most important factor. The coming slowdown is also suggested by SSCI president Andrew G. Sharkey who notes that 45% of his group's membership expect a drop in overall economic activity over the next three months—three times more than a year ago.

On a somewhat rosier note, Mr. Sharkey isn't quite as concerned about top-heavy inventories as he was a few months back. He notes some declines of late, both absolutely and in terms of months' supply. But this is being counterbalanced by a modest rise in PM steel holding—though overall tonnages here do not seem to be all that much out of line with final use.

But whether inventories are up or down relative to a month ago, the future trend here seems clear: both PMs and service centers are determined to bring stocks down even further over the next few quarters. Some 73% of queried buyers, for example, contemplate a decline in their inventory levels over the next three months. Distributors suggest a similar trend—as 51% rate their stocks as being high *versus* the 2% who dub them as "too low."

Such stock paring estimates may be a bit exaggerated. They usually are. Nevertheless, some fair-sized cutbacks are likely—with perhaps as much as two million tons dropping from buyer and service center shelves over the next six months.

Equally important, the increasing availability of steel should allow such retrenchment without too many worries about the need to fill in an occasional stockout or two in a hurry. More to the point: an impressive 82% of buyers say they expect to have few if any problems in getting what they want when they want it this fall and winter. Indeed, only coated sheet is mentioned as a possible problem by more than one respondent.

Anticipated price weakness could be yet another reason for cutting back on forward buying. It's no secret, for example, that discounting is endemic in most flat-rolled products.

Since such discounts are becoming increasingly widespread, they also implied that the average realized mill steel price is edging lower. One estimate sees the average tag falling to near $515/ton by early next year—about 4.5% under recent spring highs.

Steel service centers would seem to agree about such price softness. An impressive 41% responding to the latest SSCI survey, for

Import prices

(compared to domestic)

Steel buyers
ABOVE 41%
SAME 28%
SLIGHTLY BELOW 28%
SUBSTANTIALLY BELOW 3%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 79%
5-10% BELOW 19%
10-20% BELOW 0%
OVER 20% BELOW 0%

example, are talking in terms of lower tags over the next six months.

Certainly the easing supply-demand situation supports such projections. Right now, it's doubtful whether the industry will be shipping more than 19.5-20 million tons of metal in each of the first two quarters of the new year.

That's in sharp contrast to the 21.7 million quarterly average of a year earlier. Moreover, with steelmaking capacity holding firm, it points to only about an 80% industry operating rate—down significantly from the near 90% peak prevailing in the early part of the current year.

Finally, import competition could also be a price factor in the quarters immediately ahead. In recent months both distributors and buyers report that overseas producers have become a bit more active in seeking U.S. orders.

This month's breakdown

Index: 1982 = 100

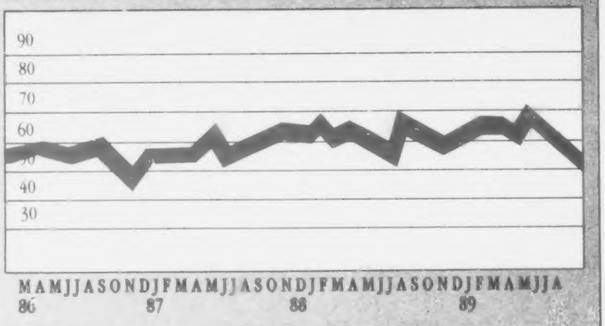
	Latest level (Sept.)	% change from: Month ago	Year ago
Bearings	125.5	0.8	6.1
Bolts, nuts, etc.	113.0	0.4	6.0
Chemicals, inorganic	107.8	−1.3	7.2
Chemicals, organic	112.8	−1.6	0.6
Concrete products	111.4	0.2	1.4
Corrugated cartons	112.6	0	1.4
Cutting tools, small	112.0	0.1	4.4
Electric lamps (bulbs)	124.9	−0.1	1.2
Electronic components	119.6	0	1.0
Fans and blowers	119.9	0.3	5.7
Foundry and forge products	115.3	0.2	4.4
Fuel oil (residual)	46.8	−3.5	15.8
Furniture, commercial	130.1	0.2	3.4
Gasoline	64.9	03.0	12.9
Glass, flat	109.9	−0.2	−0.8
Glass containers	116.3	−0.1	3.6
Gypsum products	109.1	1.0	−1.4
Hand tools	128.7	0.5	6.3
Hand tools, power driven	117.0	0	4.7
Industrial furnaces	125.2	0	3.0
Integrating and measuring instruments	120.4	0.1	5.0
Internal combustion engines	116.0	0.5	3.3
Lubricating oil	112.0	0.3	4.7
Lumber millwork	128.0	−0.1	4.3
Material handling equipment	112.6	0.2	4.0
Metal containers	113.0	1.9	1.5
Metal mill shapes (nonferrous)	136.9	0.7	2.8
Metal tanks	111.4	0	4.7
Motors and generators	130.0	0.3	5.5
Motor trucks	123.6	−1.0	3.3
Office and store equipment	109.8	0	2.0
Paperboard	140.3	0	3.0
Paper boxes and shipping containers	131.1	0.4	4.5
Paper office supplies	122.3	0	4.9
Paint	120.8	0.2	6.2
Plastic resins	129.2	−2.1	−7.0
Precision measuring tools	125.3	0	3.2
Pumps and compressors	115.9	0.1	5.4
Refractories	119.9	0	5.1
Rubber belts and belting	116.7	2.1	7.5
Scales and balances	106.7	0.2	0.4
Steel products	114.3	0.2	2.2
Switchgear	119.2	0	4.8
Textiles, synthetic fibers	106.6	−0.6	8.1
Textiles, gray fabrics	115.5	−0.2	1.0
Tires and tubes	97.4	0.1	2.6
Transformers and power regulators	118.8	0.3	9.0
Welding equipment	122.5	0	2.9
Wire and cable	146.4	2.4	13.5

NAPM procurement trends

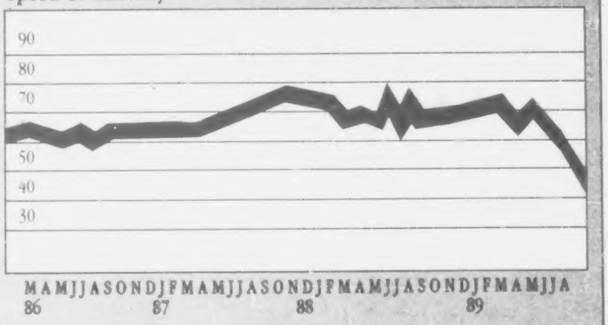
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

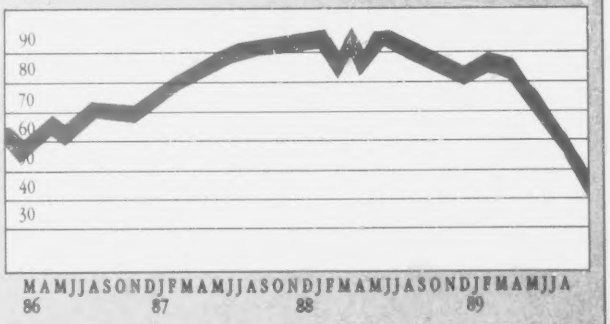
Inventories



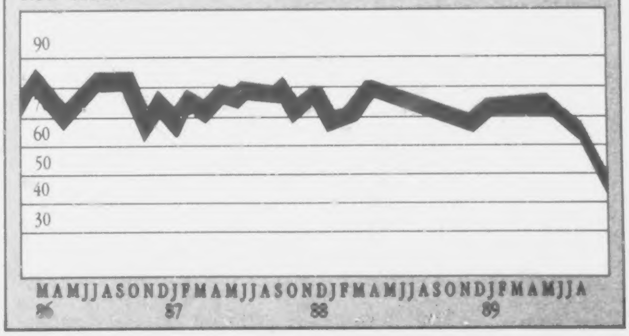
Speed of delivery



Prices



New orders



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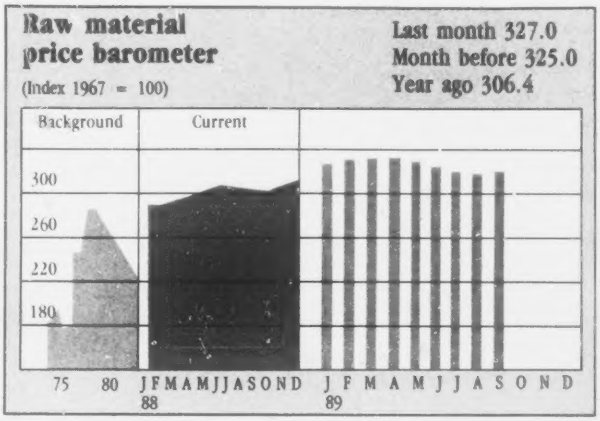


Raw material price barometer

(Index 1967 = 100)

Last month 327.0
Month before 325.0
Year ago 306.4

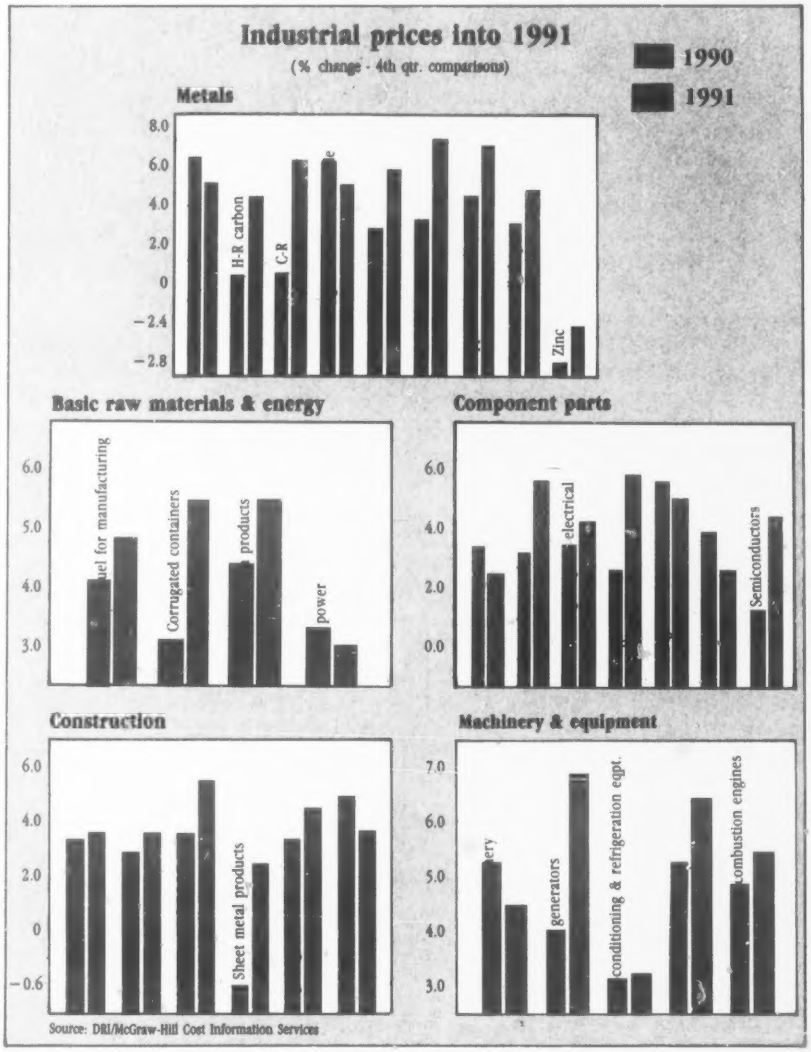
Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes. Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt., merchant quality	18.70	18.70	16.50
Steel, bars, Pitts., cwt.	18.70	18.70	16.50
Steel, bars, C.R., Pitts., cwt.	23.95	23.95	19.45
Steel, plates, Pitts., cwt.	23.25	23.25	22.75
Steel, plates, H.R., Pitts., cwt.	23.25	23.25	22.75
Steel, sheets, C.R. Detroit, cwt.	29.65	29.65	28.15
Steel, strip, C.R., Chi., cwt.	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.805	.810	1.010
Antimony. N.Y., dealer, lb.	.94	.90	1.05
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb.	1.98	1.97	1.88
Brass, yellow, [sheet], lb.	1.94	1.93	1.84
Cadmium, N.Y., dealer, lb.	6.00	4.60	6.20
Copper, electrolytic, wire bars, refd., lb.	1.35	1.34	1.25
Copper sheet, over 24 in., lb.	2.07	2.06	1.97
Lead, common, N.Y., lb.	.44	.44	.40
Magnesium, pig ingot, [99.8%], lb.	1.63	1.63	1.58
Mercury, 20 fl. lots, N.Y., fl.	260.00	262.00	310.00
Molybdenum, oxide, dealer, lb.	3.18	3.26	3.49
Nickel, cathode, dealer, lb.	4.90	5.20	4.98
Platinum, dealer, oz.	488.00	474.00	520.00
Silver, N.Y., oz.	5.21	5.10	6.40
Tin, N.Y., dealer, lb.	3.92	3.97	3.36
Zinc, Prime West, East St. Louis, lb.	.80	.80	.69
Zinc, die casting alloy, No. 3, lb.	.885	.895	.805
PAPER			
Uncoated book #3 offset, ton	960.00	1020.00	955.00
Watermarked bond, ton	1090.00	1090.00	1080.00
Gummed sealing tape, carton	18.93	18.71	17.98
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	780.00	780.00	685.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	410.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	.285	.284	.276
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.22	1.22	1.20
Cotton middling, 1", N.Y., lb.	.683	.688	.505
Printcloth, 48", 80x80, N.Y., spot. yd.	.50	.50	.48
Army duck, 37", 13 oz., yd.	1.40	1.40	1.51
Blended printcloth, 64", 78x54, yd.	.80	.78	.66
20s combed yarns	1.94	1.94	1.96
Wool 64s, Staple, lb.	3.50	3.50	4.50

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.42	.42	.36
Ammonia, anhydrous, tankcars, Gulf Coast, ton	68.00	70.00	91.00
Benzene, petroleum, tanks, Houston, gal.	1.25	.98	1.18
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	26.00
Cresylic acid [over 25%], tanks, lb.	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.106	.106	.106
Glycerine, synthetic, tanks, lb.	.845	.845	.735
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.32	.42	.58
Naphthalene, crude, tanks, lb.	.16	.16	.22
Phthalic anhydride, tanks, lb.	.40	.40	.35
Polyethylene resin, low density liner film grade (market place), lb.	.360	.390	.515
Polypropylene, homopolymer grade (market price), lb.	.410	.420	.510
Polystyrene, general purpose grade (market price), lb.	.500	.505	.600
Polyvinyl chloride, pipe grade (market price), lb.	.365	.375	.440
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.355	.365	.470
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	117.50	117.50	132.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	66.86	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	.95
Xylene tanks, gal.	.875	.875	1.000
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	344.50	343.50	329.80
Lumber 2x2 pine, mbf, cl	329.70	339.45	314.70
Plywood, plyform, ¾", msf, cl	602.61	598.00	569.20
Plywood, ⅝", msf, cl	365.86	360.17	387.70
Cement, bulk, ton, tl	62.85	63.34	64.42
Sand, ton, cl	7.00	7.01	7.16
Ready-mix concrete, 3,000 psi/cu. yd., 15 cu. yd.	48.09	47.99	48.41
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	89.04	89.04	85.61
Reinforcing bars, whse base; per cwt	22.04	22.55	20.94
Asphalt paving AC-20	105.80	107.22	115.64
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	17.94	17.83	N.A.
FUELS			
Crude oil (W. Tex Int Cush), bbl.	20255	19.85	14.10
Diesel (reseller rack, Chi), gal.	.595	.568	.388
Fuel oil No. 2 (N.Y.), gal.	.5925	.5475	.4100
Fuel oil No. 2 (Gulf spot), gal.	.551	.538	.374
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	20.00	18.50	15.00
Gasoline (reg lded NY), gal.	.6560	N.A.	.5100
Gasoline (reg unlded NY), gal.	.5710	.5950	.4900
Kerosene (reseller rack, Chi), gal.	.675	.651	.435
Propane (Mt. Belvieu, Tex), gal.	.2213	.2160	.1975
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	97.00	99.00	117.00
Steel, No. 1 hvy., dlvd., Chi., ton	101.00	108.00	115.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.210	1.150	1.060
Copper, No. 2, East, wholesale buy, dlvd., lb.	1.115	1.060	.925
Brass, red, East, wholesale buy, dlvd., lb.	1.170	1.110	1.020
Brass, yellow, East, wholesale buy, dlvd., lb.	.620	.615	.470
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	.480	.510	.610
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.560	.570	.700
Zinc, old, East, wholesale buy, dlvd., lb.	.30	.38	.240
Lead, clean solids, East, wholesale buy, dlvd., lb.	.240	.240	.245
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom	Nom.	20.00
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	5.00
Old newspapers, Chi., ton	Nom.	Nom.	5.00
Old white ledger, Chi., ton	110.00	90.00	85.00

[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

Inflation watch—
Price hikes seen slowing



Source: DRI/McGraw-Hill Cost Information Services

Slowing economic growth should continue to have a moderating effect on inflation—but any deceleration will be slow and gradual.

That's how Data Resources, Inc. (DRI) analysts see the price picture developing over the next few years. But that doesn't mean there's room for complacency. The Lexington, MA-based econometric consulting firm feels, for example, that labor could be something of a problem.

DRI figures that compensation per hour could rise 5.6% and 5.8% in 1990 and 1991, respectively. That's significantly above last year's 4.7% advance and the 5.4% estimated increase for the current year.

All in all, finished goods prices are expected to advance only 4.3% this year—far under the 9% annual rate noted earlier. Much of the deceleration, however, will be centered in crude materials. Example: DRI's forecasts actually show fractional declines here for the third and fourth quarters. And next year's increase is put at under 1%.

But crude materials are only part of the price equation—and averages never tell the whole story. In any event, there looks to be considerable variation in the rate of change on a product-by-product basis—with key areas through 1991 shaping up something along these lines:

- Energy: refined petroleum products (reflecting earlier crude oil cost jumps) are projected to rise 13.1% for the year. But next year's increase will be only 2.9%—and for 1991 only a slightly bigger 5.0% increase is seen. Natural gas will increase more rapidly—6.4% next year and 7% in 1991 as demand and supply come into better balance.
- Steel: the list-oriented producer price index which increased 8.3% last year decelerates to an increase of 4.9% this year and 3.0% in 1990. As for 1991—hikes accelerate a bit (to 4.7%). Behind the continuing advances in list: high costs of primary inputs and recent labor contracts.
- Nonferrous metals: negative signs are expected to predominate over the next few quarters—primarily because of relatively flat industrial production and construction activity. Aluminum, for example, should be under 95¢/lb. by late next year. And copper, despite a recent rally, is put at under $1.20/lb. at that time as new supplies come into the market. Nickel, too, will be soft—and should be running about 40-45¢/lb. under current levels by late 1990.
- Chemicals: weakening domestic demand (only partially offset by

Labor wage rate growth may jump, could be problem for inflation.

strong exports) should restrain industrial chemical increases—holding gains to 0.6% in the fourth quarter.

In 1990 quarterly gains of about 1.4% are seen. But by 1991, increasing capacity should hold these quarterly gains to only 1.1%.

- Machinery and equipment: slowing capital outlays will limit price boosts. Example: overall machinery and equipment tags are targeted to rise only 4.1% next year and 4.6% in 1991—not much more than this year's estimated 3.7% rise. Prices of general purpose machinery will be even more severely affected—with this year's estimated 5.2% advance dropping off to 2.1% and 3.0% in 1990 and 1991, respectively.
- Electronic components: figure on prices rising only 3.2% this year, 3.5% in 1990, and 4.0% in 1991. Switches will lead the boosts—with price gains of 6.1% in 1989, 6.0% in 1990, and 3.5% in 1991. Microprocessors look to be weakest—increasing only 2.6% this year before slipping 4.3% in 1990 and 4.4% in 1991.
- Construction materials: fabricated structural metal products, a bellwether sub-index, is forecast to increase 5.5% in 1989, 3.2% in 1990, and 4.1% in 1991. Another typical item: plumbing fixtures, where 6.6%, 3.0% and 4.3% boosts are anticipated over this three year period.
- Paper: increases will continue to taper off—averaging out at around 0.8% per quarter in late 1989 and 0.6-0.7% per quarter during both 1990 and 1991. Corrugated should follow suit—with average quarterly increases put at only 0.7-0.8% through the end of next year and 1.3% during 1991.
- Transportation services: DRI projects industry costs rather than industry price trends. Their average quarterly estimated increases here from now through the end of 1991: air freight 0.9%, interstate trucking 1.1%, and railroads 1.8%. Assuming costs are a barometer of rates, this implies about a 4-5% annual rate of increase in freight tabs over each of the next two years. **PW**

Advertisement

Innovative Company's Purchasing Software May Obsolete Many Mainframe Computers

Holmdel, New Jersey — Purchasing departments worldwide are known for their mountains of paperwork, "fire-fighting" environments, and tight budgets. Yet, incredibly, in this cost-conscious business atmosphere, some companies are still using expensive mainframe computers to streamline their purchasing activities.

American Tech, Inc. of Holmdel, New Jersey, has a solution to the cost vs. efficiency problem for savvy purchasing department managers. They've developed a PC-based, automated purchasing system called P.O. WRITER PLUS. According to company CEO Tim McEneny, the recently released 6.0 version of the software runs faster, is easier to use, is more complete, and is a fraction of the cost of mainframe software.

Metz Metallurgical, South Plainfield, New Jersey, implemented P.O. WRITER PLUS in 1986. Dick Alberti, Purchasing Manager for the company, recently had this to say about the software. "We considered a mainframe purchasing system but realized that we were years away from getting anything done in that area. I needed help right away and P.O. WRITER PLUS could be implemented immediately." Alberti and one assistant now generate and track over 7,000 P.O.'s per year using P.O. WRITER PLUS on an IBM PS/2 Model 50.

"The most important criteria for selecting a software package is ease of use," McEneny states. "P.O. WRITER PLUS is designed for non-systems people," he adds. Harold Rogers of Bowater, another P.O. WRITER PLUS user, agrees. "I'm just a country boy from Alabama. If I can use it, anybody can," he says.

"It's amazing how much more you can get done with P.O. WRITER PLUS," McEneny says. "A typical increase in productivity is 30 - 40%," he says.

Peggy Marx, Purchasing Manager at XTEX, a Cinncinati-based company, concurs."P.O. WRITER PLUS has far exceeded my expectations. When our business increased by 30%, the increase in paperwork would have required an additional person in Purchasing. With P.O. WRITER PLUS, the 30% was absorbed."

Other companies look at the savings in a different light. Dave Granata, Purchasing Manager of Prodigy (an IBM and Sears partnership) says "It's the next best thing to the $100,000 mainframe packages. From a price performance point of view, you can't go wrong with P.O. WRITER PLUS."

For additional information on P.O. WRITER PLUS, call American Tech at (201) 946-8844. American Tech has offices at 22 S. Holmdel Road, Holmdel, New Jersey 07733.

— Kent Moore

Circle 169 on card

U.S. census shows…
PM's role more important

Purchasing's role in a firm's overall operations may be a lot larger than most people think. If there's any doubt on this score, take a look at the accompanying chart.

Based on figures supplied by the U.S. Census Bureau, it shows that manufacturers' purchases of materials and services have consistently been accounting for over 50% of the sales dollar. Put another way, purchasing by far makes up the biggest dollar segment—something that suggests a lot of leverage on bottom-line performance.

This buying leverage is further magnified by the fact that a dollar saved in purchasing goes right to the earnings line. That's in contrast to a dollar increase in sales where only a percentage of the increase is translated into profits (the exact amount is dependent on the firm's specific profit margin).

As for your own individual operations, how much influence you have also depends on the particular industry in question. The 50%-plus figure quoted above, for example, is an average of literally hundreds of industries.

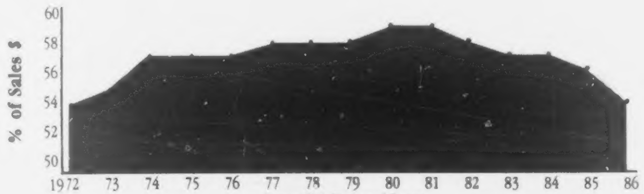
But averages can be deceiving. As shown in the accompanying table, the percentage of the sales dollar attributable to purchasing can vary from under 30% to as high as 85%.

Generally speaking, high labor-intensive industries (the electronic component sector is a good example) tend to have low purchased materials/sales ratios. At the other end of the spectrum, however, are low labor-intensive industries (like petroleum refining) where material purchases tend to play a larger role.

Also worth noting: There is no discernible trend in those ratios over time. There are year-to-year variations in the average ratio (see chart), but they are in large part due to changes in product mix. Other things being equal, when the ratio falls it means that in that particular year high labor-intensive industries tended to lead the pack. **PW**

Purchasing's Role in the Sales Dollar

(An overview)



Source: U.S. Bureau of Census

Purchasing's role in the sales dollar

(Industry-by-industry details)

Industry	% of sales
Food	64
Tobacco	33
Textile mill products	60
Narrow fabric mills	44
Knitting mills	55
Textile finishing	68
Floor covering mills	72
Apparel	51
Lumber	60
Millwork	61
Wood containers	58
Furniture & fixtures	47
Household furniture	50
Office furniture	39
Paper & products	55
Pulp mills	58
Paperboard mills	55
Containers & boxes	61
Printing & publishing	34
Chemicals & products	49
Industrial inorganics	44
Industrial organics	60
Synthetics (ind. plastics)	59
Drugs	29
Paints	54
Petroleum & coal	83
Petroleum refining	85
Rubber & plastic prod.	49
Leather & products	53
Stone, clay, glass	46
Flat glass	40
Cement	48
Structural clay prod.	41
Pottery	33
Concrete, gypsum, plaster	53
Primary metals	63
Steel furnaces	63
Iron & steel foundries	44
Primary nonferrous metals	76
Nonferrous foundries	47
Fabricated metal products	50
Metal containers	66
Plumbing & heating	47
Fabricated structural metals	55
Metal forgings & stampings	53
Non-elec. mchy.	47
Metalworking mchy.	36
Construction mchy.	52
General indust. mchy.	43
Bearings	39
Electric & Electronic eqpt.	43
Electric distributing	44
Motors & generators	44
Household appliances	55
Communication eqpt.	38
Electronic components	38
Transportation eqpt.	60
Motor vehicles	69
Aircraft	49
Instruments	35
Engineering & scientific	37
Measuring & control	35
Optical	39

Source: U.S. Bureau of Census

And a similar situation seems to be shaping up for the actual resins. Next year's resin price projections tell the story--with these average changes (*vis a vis* 1989) currently being forecast: low-density polyethylene (-9.3%), high-density polyethylene (-10.9%), polypropylene (-11.3%), polystyrene (-12.4%) and polyvinyl chloride (-13.0%).

Declines of this magnitude have to have an impact on plastic packaging prices. And if you add in continuing keen competition among producers, it's easy to explain WEFA's projection for an overall 3.1% decline.

This is all in sharp contrast to what happened last year when soaring resin costs forced a huge 13.5% jump in overall plastic packaging tags. Moreover, this price decline is coming at a time when most other packaging types will be steady or slightly higher in price.

- **Glass:** prospects for long-term demand growth continue to be poor, notwithstanding the industry's strong showing this year. Reason: the inherent disadvantages of glass containers.

This makes for an inexorable shift toward plastic and metal types as the container of preference –a trend that should accelerate over the next year or so.

Meantime, glass container manufacturers seem to be having trouble making recent price increases stick—with only part of last spring's 5-6% boost on food and beverage containers holding up.

No big change in the glass pricing climate is anticipated over the upcoming year—especially if WEFA projections of slowly falling demand materialize. Thus glass container manufacturers will not even achieve this year's watered down 3% gain in 1990—as excess capacity and inter-modal competition limit next year's overall glass container price advance to only around 2.5%.

What does this all add up to in the way of change in overall packaging costs? WEFA doesn't present any composite estimate for the industry as a whole. But if one weighs each price change by estimated dollar sales, 2% is suggested.

PW survey shows

Packaging buyers

It's been a fairly good year for packaging buyers. To be sure, prices continue to edge up. But the overall increases have been tapering off of late—with the advances now far under those experienced in 1987 and 1988.

Lest there be any doubt on this score, look at the chart below. Generally speaking, price hikes over the most recent 12-month period have been moderate...and far lower than those reported just six months ago (see *PW*, 5/89, page 51).

It might also be pointed out that purchasing managers, responding to a new nationwide *PW* survey, reduced their estimated 1989 overall packaging increase—from the 5% projection made this past spring to about 4% presently.

Also indicative of change is the fact that Uncle Sam's all-inclusive container price index is showing some signs of leveling off. Thus after rising 5% last year, and by even faster rates earlier this year, increases have been slowing down of late—with little or no change noted since early summer.

More important, the *PW* survey suggests that this deceleration will continue. Respondents put their overall packaging cost advance for next year at only near 3%, with a fair number hopeful of doing even better than that.

This continuing moderation, incidentally, is also confirmed by Wharton Econometric estimates (see accompanying story). That suggests only about a 2% advance for the upcoming year, with seven of the nine specific categories examined expected to show some deceleration.

All this in no way is meant to imply that price increases won't be hurting some PMs. Just a few weeks ago, for example, tinplate makers announced price hikes of about 5%. And aluminum beverage canmakers, despite two earlier failures, may again try to boost prices. But this latter move is not likely to be successful because of a big capacity overhang.

One thing for sure, the runup in another type of container—plastic bottles—is over. Reason: the key raw material (polyethylene terephthalate) has dropped 4-5¢/lb. since the beginning of the year. Other things being equal, this would seem to preclude a repeat of the past 12 months when plastic bottle tags jumped by close to 8%.

And what's true of rigid plastic containers also holds for plastic films. More to the point: with thermoplastic resins dropping on a broad front, film tags are under increasing pressure for similar declines.

The price outlook for corrugated containers is also looking better—at least from the buyer vantage point. PMs responding to the new PW survey, for example, now report more decreases than increases—and all say they are bargaining hard on this item.

Packaging buyers also project a change in the overall demand pattern. Where they were buying increasing volumes both in 1988 and this year, they now see a relatively flat trend developing in 1990. Some

gaining more clout

two-thirds of the respondents to the *PW* survey, for example, see little change for the upcoming year. And the 22% who are contemplating volume decreases actually outnumber the small 14% who feel further increases are possible.

But while demand may stay relatively stable overall, plastic bottles should continue to move ahead. A new study by Frost and Sullivan on blow-molded containers notes that these products should capture 23.4% of the entire container market by 1992.

While on the subject of plastics, another study (this one by the Freedonia Group) sees dollar growth of blister and skin packaging advancing at near a 20% annual rate through 1993.

This switch to plastics is one way buyers hope to keep overall packaging costs within bounds. But there are other ploys, too—with an increasing number of respondents reporting increased use of long-term contracts.

Nor does this exhaust the list of cost-saving approaches. Other tacks being taken include more intensive review of packaging costs, redesign of packaging, more uniform packaging, use of lighter gauge materials, and closer liaison with vendors.

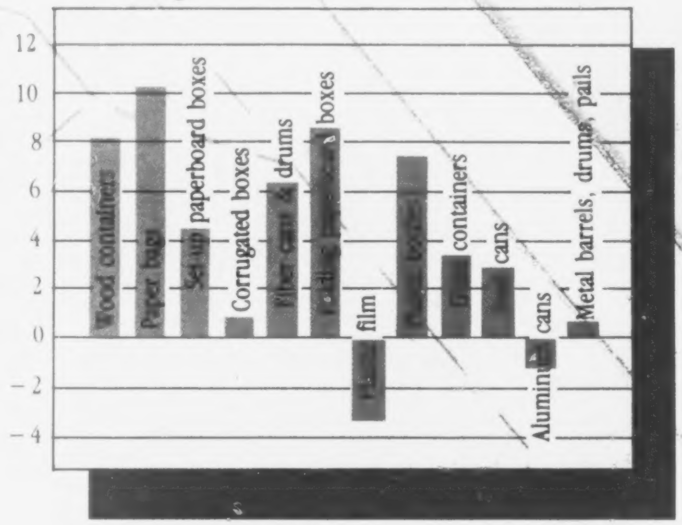
This latter development toward buyer-seller cooperation may become increasingly important over the longer pull as Uncle Sam moves to cut down on packaging pollution.

But such government action is still a ways off. Meantime, the basic packaging outlook can only be characterized as being encouraging. As one *PW* reader sums it up, "sellers are no longer calling all the signals. The ball is in our court—and with a little hard bargaining, we feel we can keep packaging cost increases next year at least on or even two percentage points under the general inflation rate." ***PW***

Packaging prices: the buyers view

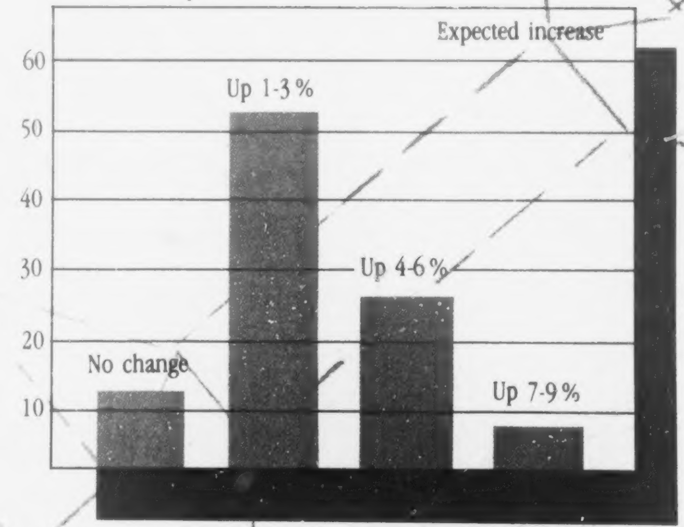
The last 12 months

Percent change



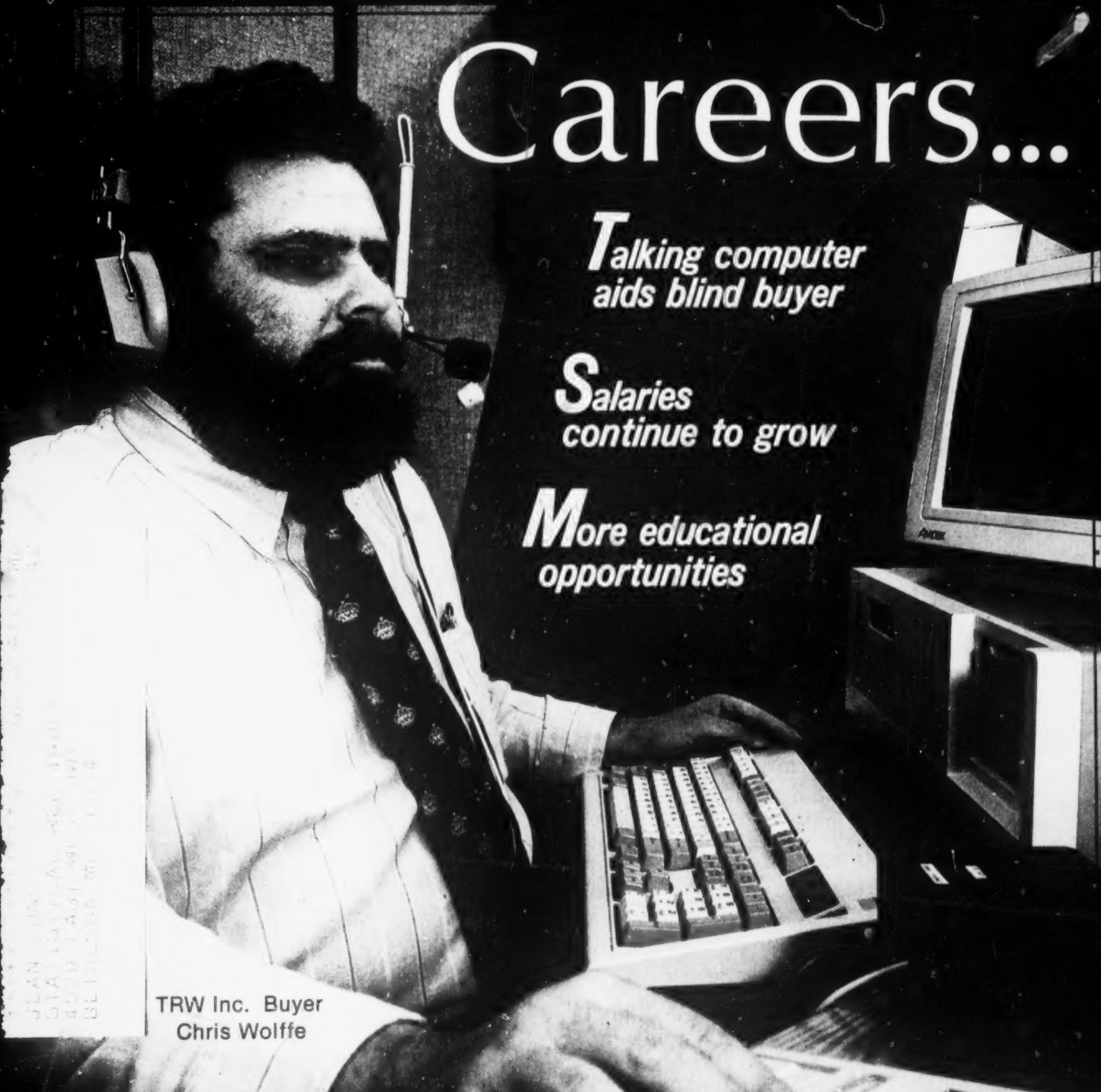
1990 vs. 1989

Percent of respondent



Source: Bureau of Labor Statistics, PW Estimates

THE BUYER'S MAGAZINE DECEMBER 1989



Careers...

Talking computer aids blind buyer

Salaries continue to grow

More educational opportunities

TRW Inc. Buyer
Chris Wolffe

PW Exclusive: The price lull is for real • Commodity briefs

Who bears the risk of los[illegible] The true cost of acquisition

CONTENTS

December, 1989 Vol. 33, No. 12

COVER STORY

22 Talking computer gives blind buyer new career

At TRW, a buyer who is blind is using a computer program which helps him handle POs and other purchasing functions in a new profession.

24 Diploma helps promotability, paychecks

Does a college diploma—especially in a purchasing-related field—make a difference to corporate recruiters? *PurchasingWorld* did a survey to find out that it does.

30 Purchasing pros' numbers get better

Our annual salary survey reveals that raises for purchasers have exceeded the national average—and the number of Certified Purchasing Managers (CPMs) looks to be going up, too. The survey also tells where the high-paying jobs are—by commodity responsibility and region.

FEATURES

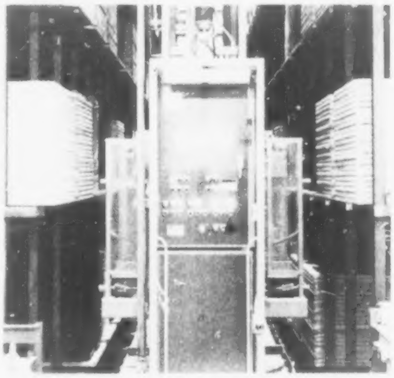
19 Costs heading up in 1990

The quarterly Wharton report, offered exclusively in *PurchasingWorld*, indicates that transportation costs will go up, although not substantially, in the coming 12 months.

A buyer's career doesn't have to be limited—talking computers can help. Page 22

SELF
Control
TACT

Negotiating mixes tact, self-control and a number of other qualities when it's done right. Page 34



Obsolete inventory is a problem purchasing can solve for top management. Page 36

20 How clean is that tanker?

Transportation writer Tom Dillon explores a current problem in trucking—tanks that haul food ingredients or chemicals (where purity is essential) sometimes aren't cleaned carefully, contaminating the next load.

33 Shades of '89

Management columnist Ken Killen can't resist making some predictions for the next decade: he covers education, TQC, and JIT.

34 What it takes to negotiate

Negotiating isn't all beer and skittles, it takes a certain cast of mind to handle these chores successfully.

36 Controlling inventory obsolescence

An important cost consideration—obsolete inventory—takes special consideration. What can be done with it? How can costs be minimized?

39 Purchasing's changing negotiating role

The role of the purchasing professional is changing and expanding, according to consultant Lou DeRose.

45 Cost of acquisition

It's easy to say that a PO costs a company $10 to write—but that doesn't take all factors into account. The actual cost is probably more than most buyers think.

PurchasingWorld

JIT strategy starts with benchmark study

Traveling the road to a just-in-time strategy begins with an analysis of just where you currently stand. You need a benchmark, advises Dennis Driver of IMC Strategic Planning Group, Paducah, KY, a system analysis that will provide a factual summary of the existing procurement process. If that analysis gives a JIT effort the green light, start with a commodity in the MRO area that would not impact production if the plan needs modifying, he adds. And once you have selected a supplier you want to partner with—remember it's not the same old adversarial game you both have been used to playing in the past—and established a price, warns Mr. Driver, "You cannot simply drop everyone an outline of the agreement and expect things to go as planned. You must educate everyone involved, not only your own personnel, but all the supplier's personnel as well...and you must continue to followup." It all begins by asking yourself "is this what our organization should be doing? Is it worth all the effort?"

Steel drums pushed as waste minimizers

With society getting fed up with dealing with industrial waste, the "Old Reliable" steel drum could be gaining new acceptance. The Steel Shipping Container Institute is pushing the idea that "steel drums can be reused like no other drum. There's an entire secondary-use industry out there geared to take emptied containers off the end-user's hands." It points out that the drums are easily washed, rinsed, or crushed for reuse or to be recycled into the manufacturing stream.

C.P.M. exam set for January

The National Assn. of Purchasing Management has set its next exam for the Certified Purchasing Manager designation for Jan. 24. It's expected that some 2,500 individuals will be taking the test in more than 130 locations nationwide. All four modules—Purchasing Function, Administration Function, Organizational Function, and the Continuing Education Function—will be offered. Taking and passing all four modules is one important requirement needed to earn the C.P.M. designation. Other elements of the program that can earn points toward the certification include formal education, work experience, and service to the profession.

Collapsible shipping containers studied

Exxon Chemical Co. and World Container Corp. have joined forces to study the market for reusable, collapsible shipping containers made of Taffen, Exxon's new structural thermoplastic composite. The containers would be a substitute for the "cardboard boxes mounted on a wooden pallet" which has been the standard method of shipping many items. Richard M. Burkhart, Exxon's manager for the venture, contends that the costs of disposing of the broken pallets and cardboard boxes are climbing and many industries are looking for a more cost effective shipping method. Taffen STC is a long glass fiber reinforced thermoplastic that is recyclable. It would permit shipping container design with intricate rib patterns, tight corners, and sharp angles which would permit reinforcement in areas where fastening is needed.

EDI international standard studied

The Electronic Data Interchange Assn. is beginning an independent study to analyze the potential impact of UN/EDIFACT in North America. UN/EDIFACT is an emerging EDI standard intended for international trade. The study is designed to provide information that will assist the EDI user community in determining applicability of EDIFACT to their individual situations. Results will be presented at the EDI Systems Conference and Exhibit in Washington in December.

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by Robert S. Reichard, executive editor

Lid is on for new price boosts

The combination of decelerating demand gains and a slowly increasing supply base continues to put a lid on big new price boosts.

Simple arithmetic makes this clear. Right now, demand (as measured by industrial production) is growing at only a 1-2% annual rate. Capacity, on the other hand, is advancing at near a 3% pace. Upshot: improving market balance, as witnessed by the slow decline in factory operating rates.

More important, this noninflationary situation is likely to continue for some time. Certainly plant managers responding to a new Dun & Bradstreet survey seem to think so: only 50% expect increases in the pricing of goods they sell over the next 12 months—a significant drop from the 59% response given earlier this year.

Another encouraging note from these same plant managers: some six months ago those expecting to boost their selling prices far exceeded those anticipating cost increases. Today that gap has all but disappeared. Implication: posting new price increases is now becoming a little more difficult.

Buyers too are now a bit more optimistic about holding the line on inflation. A new *PW* survey finds purchasing managers downgrading their predictions for current-year price boosts to near 3%—far under the nearly 5% estimate made just six months ago. Equally significant, the improvement is expected to spill over into 1990 when only a 2.2% overall increase in procurement costs is projected—half the 4-5% estimate given by these same PMs just six months ago.

One thing is sure—buyers are currently doing an impressive job in keeping prices down. A new NAPM survey, for example, finds the group's price index (where 50 is regarded as neutral) dropping to 41.9, the lowest level since December 1982 (just before the current upturn began.).

And if further confirmation of a price respite is needed, take a look at these four additional key stories appearing in this issue of *PurchasingWorld:*

- **Import prices:** a new government report finds incoming quotes are actually edging lower. Not only does this provide PMs with new low-cost sources, but it also makes domestic vendors think a lot harder before posting price increases.
- **Transportation costs:** a new Wharton report finds freight (an area that accounts for nearly 10% of all GNP) rising less in 1990 than in 1989. The actual estimated advances: 2.7% in 1998 *versus* 3.7% in 1989.
- **Office product prices:** a just-released forecast by a major distributor (Quill) calls for a 1.4% decrease in these items over the next six months—with the biggest drop likely in fax machines.
- **Raw materials:** other stories in this section (on steel and paper) point to softer prices ahead. And the same seems to be true of such other key inputs as nonferrous metals, chemicals, plastic resins, and electronic components.

All the above is in no way meant to imply that zero inflation looms ahead. Some increases will undoubtedly crop up—near-term because of the traditional price-boosting attempts at the beginning of each year, and longterm because of still modestly rising unit labor costs.

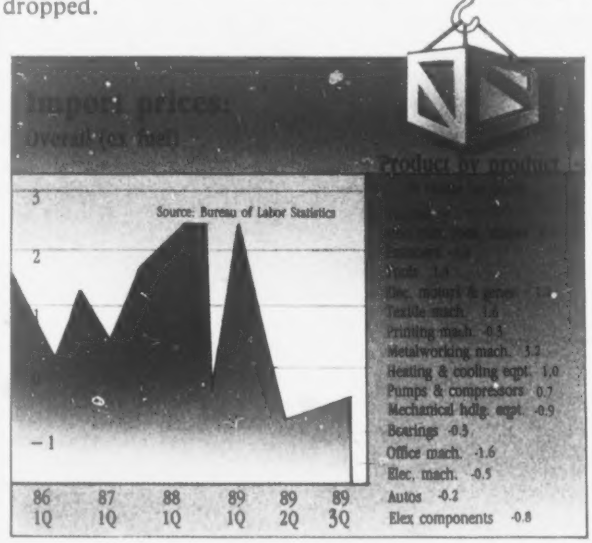
Import prices down slightly

Another hard look at imports may be in order. Reason: incoming tags have been edging lower for two straight quarters now—reversing an almost uninterrupted stream of earlier increases (see accompanying chart).

Credit much of the shift to the recent rise in the value of the dollar (up more than 6% so far this year)—something which makes it easier for overseas vendors to hold the price line.

In any case, of eight product categories monitored by Uncle Sam, some six managed to edge lower over the latest three-month period. Some details of the changes:

- **Crude materials:** the 4.7% drop here was the largest since import prices began to be tallied back in 1983. The largest fall was in metal ores and scrap (12.7%).
- **Machinery and transport equipment:** a small 0.2% drop follows a somewhat larger 0.7% fall during the previous quarter. Office machinery was down most (1.6%), followed by telecommunications equipment (0.6%) and electrical machinery (0.5%).
- **Miscellaneous manufacturing:** small increases were posted in furniture (2.6%), travel goods (2.0%), and apparel (0.8%). But professional and scientific apparatus held steady—and photo apparatus and optical goods dropped.



Copper drift is downward

The volatile metal seems to be edging lower as market balance slowly improves and labor problems are gradually resolved. In fact, a further downward drift is likely—into the $1-1.10/lb. range—by year end or early 1990. Also calculated to put downward pressure on prices: a 450,000-600,000 metric ton increase in worldwide production capacity over the past year. But any descent will be uneven—as low stocks (four week supply or less) keep markets nervous.

Heavy metals head down

The sister metals (lead and zinc) are heading lower—with 3¢/lb chopped off both in recent weeks. Further modest declines can't be ruled out for zinc as auto demand eases and London Metal Exchange tags remain shaky. And the same may be true for lead, where battery demand has been running considerably under comparable year-earlier levels. The fact that global use could be level or even fractionally lower next year should also help keep the heavy metal under downward pressure.

Aluminum still softening

Markets continue to soften—with producers failing to support a recent 2¢/lb. ingot increase (to 84¢/lb.). And free market tags are a lot lower than that (in the upper 70¢/lb. range). Another sign of continuing ease: producer inventories are building up—and are now at their highest levels in two years. Given lackluster demand forecasts and further supply gains, prices are likely to remain easy into early 1990. On a more bullish note, per-car use rose to 157 pounds in 1989—up 8% from two years earlier. And there's talk of 200 pounds per car within a few years.

Fleet car costs have jumped

Worth looking into: a shift from company-provided to employee-provided business cars. Reason: fleet car costs are estimated to have jumped 7.6% this year—on top of 1988's 10.6% spurt. Sign of the times: some 19% surveyed companies now use employee-owned vehicles exclusively—up significantly from the 7% and 12% readings of 1985 and 1987, respectively.

Plastic tags weaken

Excess capacity (operating rates have slipped to 85%) is making for more price weakness. Pipe grade material, for example, has dropped to 33-34¢/lb.—some 4¢/lb. off late-summer levels. And a similar decline has dropped the general purpose grade into the 35-36¢/lb. range. Nor is any turnaround anticipated.

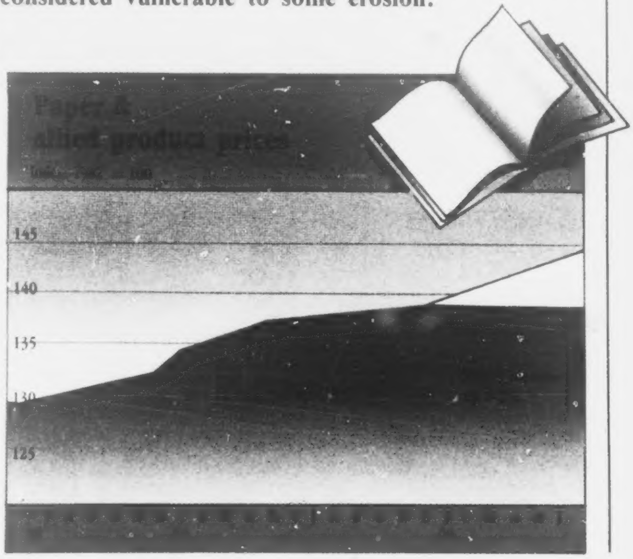
Paper prices: declines to report

CURRENT SITUATION: Prices are beginning to level out. Zero in on the fine paper area, and there are now more than a few declines to report. Taking off on this, one large vendor now says the average selling price of its uncoated papers dropped 6% over the past few months. Coated stocks used in magazines are also a bit lower. Newsprint, too, is soft. Ditto pulp, and some discounting is reported in linerboard. **One exception: solid bleached board where tags continue to edge up.**

DEMAND: Current lackluster buying suggests only a small 0.7% gain in paper and paperboard production this year (to just 77.1 million tons). That's only about one-fourth last year's near-3% advance. One factor working for the industry, however, is this year's improving trade trend—with imports down nearly 6% at a time when exports have been growing about 4-4.5%. But trade alone can't alter the basically sluggish demand outlook. **In any case, next year doesn't look all that robust.**

SUPPLY: It's a brand new ball game. Linerboard capacity, for example, will jump by 3.5 million tons in four years—the largest such increase in history. And the same is true of many other paper items, as overall production potential advances 2.9% this year, and 3.7% in 1991. Another sign of expansion: capital spending will rise a hefty 36% this year. All this is far in excess of demand. Upshot: **the all-industry operating rates which fell three percentage points since last year (to 92%) could drop even more in 1990.**

PRICE OUTLOOK: Further softness seems virtually certain. Official lists may hold up (see *PW's* steady-to-slightly-higher list-oriented forecast). But discounts should intensify—**pushing transaction prices lower.** This is certainly true in coated papers, where operating rates have fallen into the low 80s range in recent months. **And the $410/ton linerboard quote has to be considered vulnerable to some erosion.**

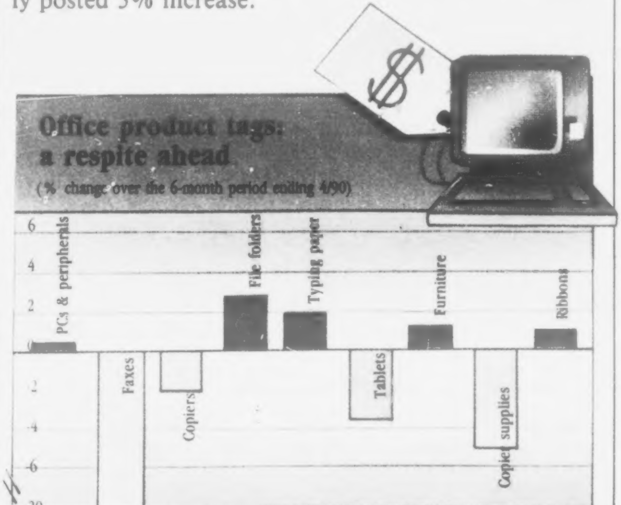


Survey: office prices peaked

Office product prices have peaked out—and may well drop a bit over the next six months.

That's the good news from Quill Corporation's latest semi-annual market survey. The Lincolnshire, IL office product distributor puts the average decline over the period at 1.4%.

- **Computer items:** the combination of hardware, software, and peripherals should remain basically flat, with only a 0.5% increase over the forecast period.
- **Other office machines:** intense competition suggests close to a 20% slide in faxes. Copier tags will fall just under 2%. And typewriters, a declining market, will be flat to slightly down.
- **Paper items:** file folders will be up 3% due to delayed paper cost pass-throughs. Typing paper will be up 2% because of higher ragbond costs. But declining table-grade paper tags suggests a 3.8% drop in ruled pads and books. Envelopes will be stable to slightly lower.
- **Furniture:** increases are becoming smaller—1.5% over the next six months *versus* the previous 3% every six months.
- **Office commodities:** items like staples, punches, fasteners, and scissors will be up less than 1%.
- **Reproduction products:** copier supplies will be off 5% due to lower paper costs. Toners will remain flat. Facsimile supplies will be down less than 1%.
- **Typing supplies:** ribbons will rise less than 1%. Other items such as correction fluid will also increase slightly.
- **Data and word processing supplies:** paper items will be down about 2.8%. Diskettes (both 3½ and 5¼ types) will also fall because of heavy competition and new production efficiencies.
- **Writing instruments:** a flat pattern is seen here as competition forces vendors to delay passing on a recently posted 5% increase.



Source: Quill Corporation

Cellular sells for less

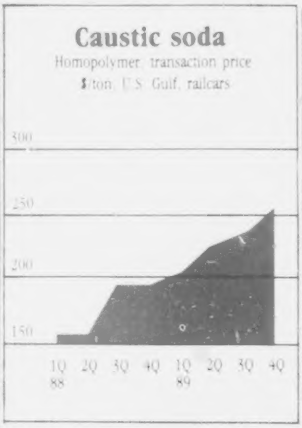
Declining quotes have brought low-end models down to as low as $300—compared with as much as $3,000 when this product first hit the market back in 1984. Service rates, however, remain relatively high—falling only 20% over the same five-year period. On the other hand, these rates could be poised for a drop next year when new digital standards are introduced which will effectively quadruple capacity. Another thing to watch: the introduction of portables. Prices are high (as much as $3,000) but should fall rapidly as more competitors jump into the fray.

Insurance rates up

Brace for increases running upward of 10% in commercial rates next year. Blame it on a series of disasters, including Hurricane Hugo, the California earthquake, and a recent refinery fire in Texas. Increases will be in marked contrast to the past three years, when rates were heading down to the point where they had eroded profits in most of the big commercial property and casualty insurance lines.

Mixed picture in chloralkalis

A mixed picture here. Caustic soda is firming while chlorine sags. On the caustic front, prices have risen into the $240-265/ton range—up some $15/ton from mid-year levels. And increases should continue here as supplies are held back by poor demand for co-product chlorine, where market quotes have dropped into the low $80-100/ton range—off as much as $10 from late spring levels. These cross-trends should persist as caustic growth (1.5-2.2%/year) outpaces chlorine advances.

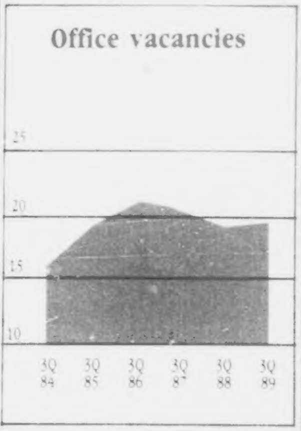


The jousting goes on

Competition continues unabated. Latest moves include 1) IBM discounts of up to 17% on its ES 3090 mainframe upgrades, 2) Digital Equipment's introduction of its first line of mainframes—one that could impact on IBM, 3) Compaq's new line of PCs that are likely to challenge traditionally faster and more expensive minicomputers. The latter also marks that producer's introduction of its Extended Industry Standard Architecture (EISA) which is a viable alternative to IBM's Micro Channel.

Office spaces remain open

Commercial vacancy rates remain high enough in many areas to elicit some really good deals. In the office sphere, higher "downtown" vacancies are noted for Albuquerque, Austin, Dallas, Denver, Miami, northern NJ, Oklahoma City, Orange County (CA), Phoenix, St. Louis, San Antonio, San Jose and Tucson. High (8% or greater) industrial vacancy rates persist in Charlotte, Chicago, Cleveland, Denver, Hartford, Houston, Miami, northern NJ, Oklahoma City and Salt Lake City.

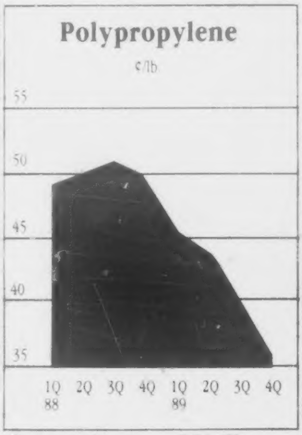


Cobalt tags stay the same

Major producers are sticking with last year's $8.40/lb. official list. Discounts which have been ranging in the 2-11% region (depending on volume and length of contract) will also remain unchanged. On a more encouraging note for buyers, merchant spot prices have been easing—and are off about 10¢/lb over the past month (to $7.40-7.60/lb). And these spot quotes could edge even lower on a combination of 1) increasing Soviet supplies, 2) possible reopening of an Idaho mine, and 3) falling demand from the paint dryer market.

Polypropylene prices drop

Prices are sagging—with another 4-5¢/lb. being knocked off quotes over the past month or two. Right now, some volume purchases of the homopolymer grade are going for as low as 35¢/lb.—a far cry from the 52¢/lb. peak of last year. And spot export markets are as low as 28¢/lb. Behind all the weakness: a declining monomer price plus a fairly substantial inventory buildup (to a 55-day supply).



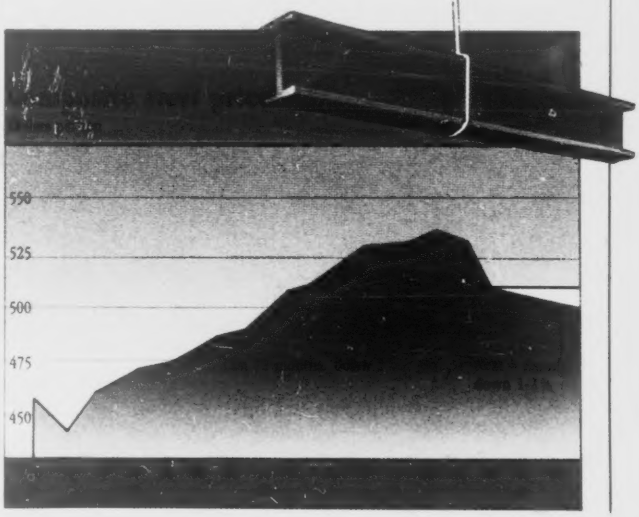
Steel slowdowns reflect autos, construction

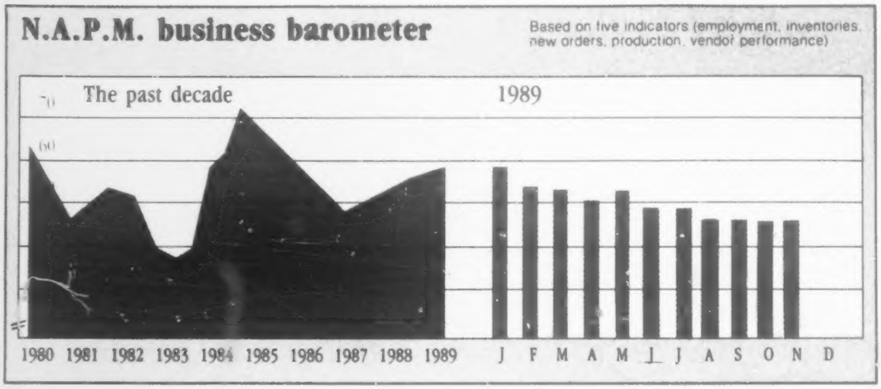
CURRENT SITUATION: Shipments have been slipping—reflecting slowdowns in both the auto and construction sectors. Latest figures suggest the second half will be more than 10% under a year ago—with the year as a whole off about 3-4% (around 81-82 million tons). **Not surprising, prices have also been softening.**

DEMAND: The upcoming year doesn't look all that robust either. For one, U.S. auto production in 1990 will be lucky to equal this year's estimated 6.9 million unit total. Construction, too, will be hard put to equal 1989 levels, on a continuation of still relatively high interest rates and less ebullient demand. Then there could be some sizable inventory paring—with users possibly chopping as much as 4-5 million tons off their holdings. Upshot: **next year's shipments are likely to edge down another few million tons (into the 78-79 million ton range).**

SUPPLY: It looks like clear sailing ahead. Two surefire signs: 1) the general shrinkage in leadtimes and 2) a falling industry utilization rate. The latter is in the process of dropping through the 80% barrier and could average in the upper 70s over the early part of next year. Also worth noting: capacity has stopped shrinking, with mill crude steel potential expected to hold around 115-116 million tons over the new year. **Finally, there are imports, which may well rise from about 17.5 million tons in 1989 to near 19 million tons in 1990.**

PRICE OUTLOOK: Further modest erosion is likely—despite a new attempt to post a 3% increase on flat-rolled products. The boost is probably just a ploy to prevent further drops in the transaction level. **Also indicative of further softness: more service centers expect replacement costs to decline than to rise over the next six months.** But don't expect any sharp cuts—as mills seek to avoid a repeat of the huge discounting of the early 1980s.





KEY ECONOMIC TRENDS

After seven years, expansion slows

The near 8-year-old economic expansion is beginning to slow down. And while further gains still seem to lie ahead, they are likely to be small and relatively scattered.

The big problem: weakness in the manufacturing sector which is offsetting continued strength in services. In any case, buyers (both industrial PMs and consumers) are agonizing a bit more before embarking on big new purchases.

Then, too, there's the stronger dollar which is apparently slowing export gains. The NAPM (National Association of Purchasing Management) Business Survey Committee, for example, reports that only 19% of its exporting members experienced an increase in foreign orders over the latest month—down from 27% a month earlier.

The NAPM Business Barometer—a lead indicator of business a few months ahead—also remains far from robust. At 47.6, this key measure is still more than two percentage points under the neutral 50 mark.

On the other hand, it should be pointed out that things may be stabilizing. The latest reading here is actually above the 45 index low of a few months back. Implication: the outlook isn't really all that bleak, and further gains—albeit modest ones—are still likely.

An easing credit situation also has to be regarded as a positive sign—hopefully sparking a spending pickup. The move should also help ease upward pressure on the dollar since lower rates discourage foreign investors from buying dollar-denominated assets.

Finally there are also some other key indicators which, if not hardy, would seem to indicate that the economy is not about to fall out of bed. These include:

- **Inventories:** the key factory stock/sales ratio has remained on a relatively even keel (see accompanying chart)—far under levels of a few years ago. It suggests that any new orders, as they come in, will quickly be translated into new production—thereby helping to buoy the economy.

And these new orders are coming in. The latest government tabulation shows durable bookings relatively firm and above year-earlier levels.

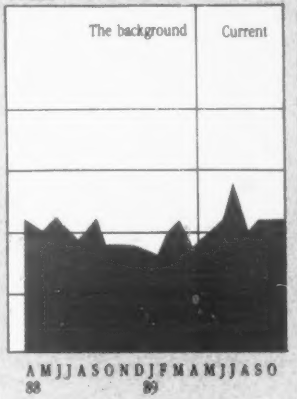
- **Industrial distributor sales:** figures here are actually up *vis a vis* 1988 and early 1989 (see chart). Since these are mainly MRO items, any strength here has to be regarded as a sign that factory managers plan to operate their facilities at fairly high rates in the months ahead.
- **Consumer confidence:** Families may be a bit more cautious these days, but by and large their confidence remains quite high according to a new Conference Board survey (see chart). Indeed, more than twice as many respondents (20%) expect improvement in business conditions than expect deterioration (8%).

This confidence is probably being fed by continuing good news on the job front: the unemployment rate is holding steady in the 5%-plus range. Also, nonfarm payroll jobs continue to rise—though virtually all of the latter is traceable to the service sector.

Leading indicators

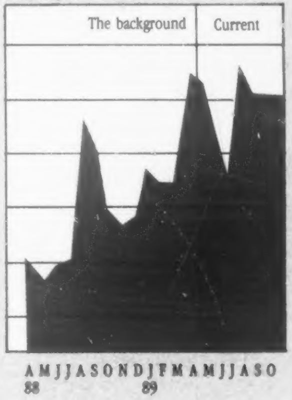
Inventory/sales ratio

Percent



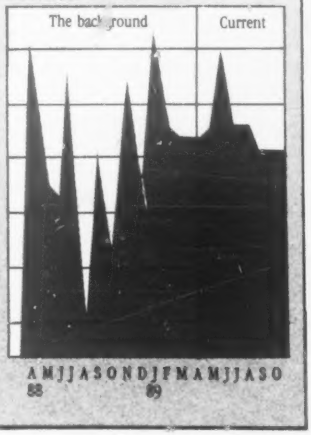
Industrial distributor sales

Index: 1977 = 100



Consumer confidence

Index: 1985 = 100



But whatever the source of confidence, consumer buying plans for the next six months aren't all that bad. To be sure, the number intending to buy a new car has dropped considerably, but interest in purchasing appliances has actually inched ahead—and even housing plans have perked up (probably reflecting somewhat lower mortgage rates).

In short, there's precious little to suggest any negative GNP numbers. Best bet at this time: a 1-2% advance during the early part of 1990—perhaps the harbinger of the soft landing economists have been talking about for nearly a year now.

Factory rates reflect supply picture

Declining factory operating rates confirm today's easing supply picture.

The drop in the overall utilization average (only about one percentage point over the past year) is hardly earthshaking. But it does suggest that the scattered tightness and leadtime extensions of 1988 are over.

Then there's the feeling that industrial production may be ready to take a breather through early 1990. Couple this with the fact that new capacity is still coming onstream, and all signs point to perhaps another 0.5-1% dip in this bellwether over the next few quarters.

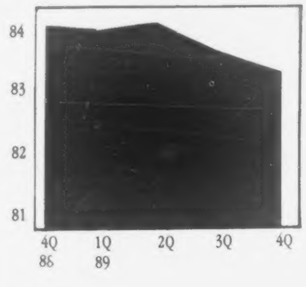
Upshot: only about an 82.5% operating rate by next spring. Again this may not seem all that low, but a 2-3% drop in this sluggish yardstick has traditionally made a big difference.

Moreover, this slippage isn't limited to any one industry. The accompanying chart shows that 8 out of 12 monitored categories now sport minus signs *vis a vis* a year ago.

And some of these negative readings are quite impressive. Metals (reflecting a sharp drop-off in steel) are down more than 10%. And this could be why tags here have turned a bit soft in recent months.

The big decline in autos (6%) also deserves mention. True, non-electrical machinery (reflecting strong capital goods buying) is up—but even here the operating rate is only a point or two over 85%.

The overall trend
(percent)



Industry-by-industry

Primary metals	-10.5
Fabricated metal products	-1.0
Non-elect. mchy.	3.7
Elect. mchy.	-2.5
Automotive	-6.3
Instruments	-0.1
Textile mill products	0.4
Paper & prods.	-1.8
Chemicals & prods.	-0.5
Petroleum prods.	3.9
Rubber & plastics	-1.3
Utilities	0.9

Indeed, there are now only two industries in the 90%-plus utilization range—textiles and paper. And the latter can scarcely be called a problem since this industry generally prefers to operate in the mid-90s range.

Conclusion: last year's sellers' market is becoming little more than an unpleasant memory—as the supply/demand balance (especially in raw materials) shifts increasingly in favor of industrial buyers.

CURRENT PRICES

Price front: more good news

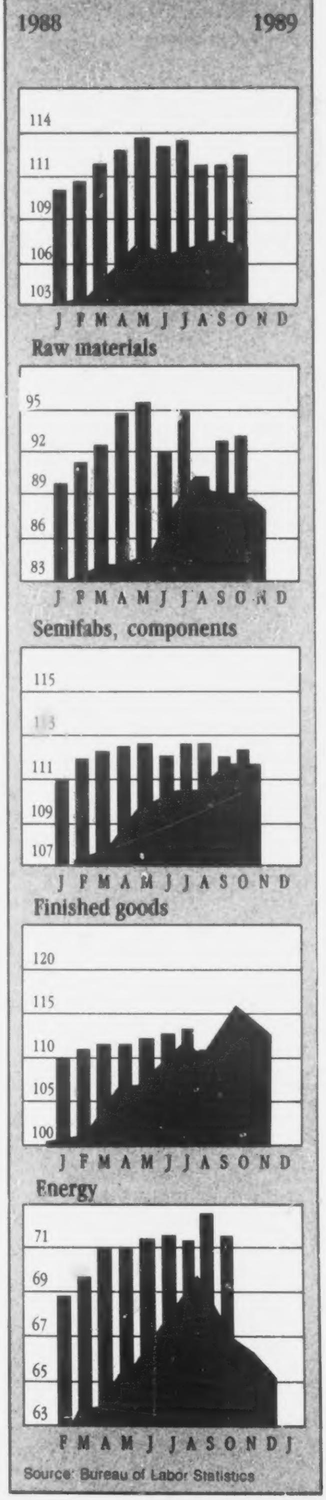
More good news on the price front—with industrial price averages showing only a very modest 0.4% advance over the latest reported month.

A closer look reveals these other especially encouraging signs: 1) unchanged prices for intermediate and crude goods viewed as a whole, and 2) only a fractional 0.1% advance in finished goods excepting the erratic food and energy components.

The energy factor, which sent the inflation rate on a roller coaster earlier this year, has also simmered down. Prices actually dropped 0.3% over the latest 30-day period—a big change from the big runups of earlier this year.

Edging down here over the past month were heating oil, natural gas, and electric power. And gasoline was up only fractionally.

Industrial prices
(Index: 1982 = 100)



Source: Bureau of Labor Statistics

Capital goods price trends were also encouraging, with some modest overall declines reported for printing machinery and farm equipment. True, truck and auto tags were up—but a lot less.

The organic chemical sector also remained quite soft, as another 0.5% was shaved off price averages here, leaving them 1.5% under 1988. Plastic resins, dependent on organic feedstocks, also continued to decline, dropping another 1.8%. Organics, however, were up a bit—thanks to stronger alkali quotes.

Metals, too, remained on the soft side. Discounting, for example, continued in steel. And several key nonferrous metals—including aluminum, copper, zinc, and lead—ended the month lower. Bucking the trend, however, were some modest advances in precious metals.

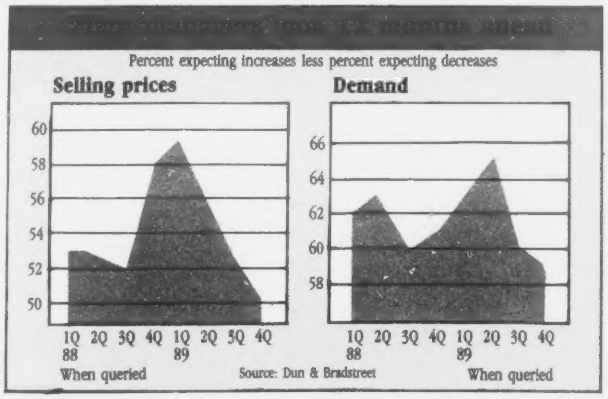
Also heading up were construction materials where the composite index jumped 1.5%. Behind the increase: a big 9.0% spurt in plywood. Increases were also registered in wire and cable and softwood lumber. On the other hand, float glass declined.

A government spokesman, commenting on the latest trends, said he expected very little in the way of dramatic change over the next few months. Most of any new softness, he added, would be centered in crude and semifabricated items where supplies continue to run ahead of demand.

Managers downsize plant forecasts

The nation's plant managers are toning down their near-term forecasts. True, all signs still point to continuing business gains, but advances may not be quite as robust as they have been over the past year or two.

A new Dun & Bradstreet survey of 1,500 manufacturing executives tells the story. Specifically, D & B's production optimism index (calculated by subtracting those expecting output declines from those anticipating increases over the ensuing 12-month period) has dropped to 57—off seven points from last spring when a similar question was posed.



Percent expecting increases less percent expecting decreases

Source: Dun & Bradstreet

But decelerating demand gains have their brighter side—making for less upward pressure on prices. Thus another D & B index, this one on future selling prices (again, the net number expecting increases) has dropped to 50. That's a significant decline from the first quarter when this yardstick reached a peak of 59.

The slower production pace envisioned, however, is not the only factor behind this improved inflation outlook. Certainly the recent fall in material tags could be playing a role.

Still another possible price influence: the fact that fewer respondents than three and six months ago expect an increase in future unit labor costs.

Also worth noting: the price-increase index is now virtually the same as the unit-cost-increase index. Six months ago the price index was running far ahead. Implication: it's now a bit harder to pass cost boosts along to buyers.

All these findings, says D & B's corporate economist, Joseph Duncan, can't be underestimated. If nothing else, they indicate that price pressures are pretty much under control for now, and for the near future as well.

PROCUREMENT STATUS REPORT

Procurement problems ease

Most of last year's pressing procurement problems continue to fade, reflecting a combination of both increasing production capacity and a basically flat demand pattern.

On the latter score, industrial production actually edged lower over the past month—resulting in further declines in the nation's overall factory operating rate—to only 82.8%, the lowest reading in a year and a half. (See the detailed look at these utilization rates elsewhere in this section.)

Not surprising ***PW's*** exclusive lead-time index continues to edge lower. At latest report this key buying barometer was bumping along at only around the 49 level—a bit under the neutral 50 mark where stretch-outs and shrinkages balance each other out.

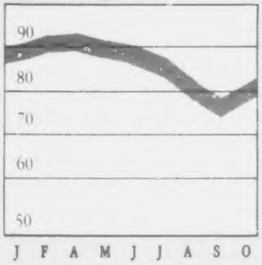
A similar trend is also noted in the NAPM speed-of-delivery index. The latest reading here is only 42.7 (again with 50 being the neutral point and anything under 50 signalling a speedup). This marks the sixth straight month of decline—leaving this bellwether yardstick at its lowest level in some 7.5 years.

This, in turn, is leading to more hand-to-mouth buying. In the key production materials area, for example, 55% of surveyed purchasing managers said they were now committing 30 days or less in advance—up three percentage points from levels reported three months earlier.

All this is not to say that every single procurement headache has disappeared. The NAPM short supply list, for instance, still contains a fair number of items—including bearings, castings, caustic soda and soda ash, titanium dioxide, polyester, and

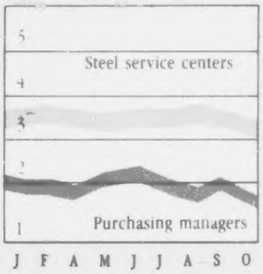
Steel

Operating rates



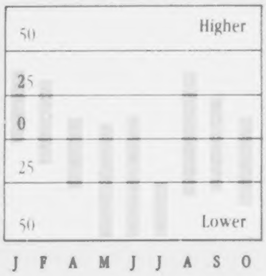
Inventories

(Months supply on hand)

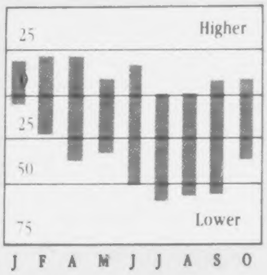


Demand (STEEL SERVICE CENTERS)

(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute, NAPM Steel Buyers Committee

rayon. Bleached paperboard is also listed, but is now said to have come off allocation.

Where do we go from here? All signs suggest that even this relatively short list of problem areas will diminish in the months ahead—especially if the flattening-out in industrial production persists. On the other hand, it would be unrealistic to expect much more overall improvement in leads—if only because delivery times in so many areas are already down close to minimun levels.

STEEL SCENE

Next quarters not bullish

The nation's top metal distributors are not all that bullish about the next few quarters—with most of them convinced that the current steel buying lull will be spilling over into the new year.

A new forecast by the Steel Service Center Institute (SSCI) provides the details. The overall 1990 shipment figure is projected to drop 2% under 1989's estimated 23.5 million-ton level. As David Deinzer, SSCI executive committee chairman sums it up, "We anticipate that most major consuming markets will be soft (although not recessionary) into the first half of 1990."

Import prices

(compared to domestic)

Steel buyers
ABOVE 53%
SAME 27%
SLIGHTLY BELOW 20%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 81%
5-10% BELOW 17%
10-20% BELOW 0%
OVER 20% BELOW 0%

Deinzer adds that many steel service centers have already experienced an easing in demand for certain products. He singles out carbon flat rolled and bar products which, he says, have been trending lower since hitting their peak in April.

And even carbon plate, which has been quite strong this year, is beginning to show signs of leveling off. Andrew G. Sharkey, SSCI president, notes some recent drop-off here from earlier peaks. Sharkey also feels there has been a slackening in alloy and stainless products.

Adding to the caution expressed by these steel spokesmen is the fact that an inventory swing may be in the making. Specifically, the 500,000-ton stock buildup of the current year is expected to give way to a 700,000-ton paring in 1990.

True, most of this should be finished by midyear. But whatever the timing, it represents a net 1.2 million-ton demand swing—and that has to have significant impact on steel markets.

On a rosier note, the steel executives think there could be some improvement after midyear. The positive factors that are expected to be operative at that time include 1) lower interest rates which will firm construction and consumer buying, 2) a weak dollar which will aid exports and help put a lid on imports, and 3) the leaner inventory situation once the anticipated "correction" is completed.

Sharkey also adds a few words on prices—suggesting that current softness may not last too much longer. He expresses this view despite the fact that the latest SSCI survey finds 42% of all respondents expecting price declines over the next six months—far more than the minuscule 5% bracing for increases.

Asked to explain the discrepancy between his forecast and respondent expectations, Sharkey says that survey results tend to extrapolate current conditions rather than likely future developments. In his own words: "Many of the service centers are more pessimistic than they should be."

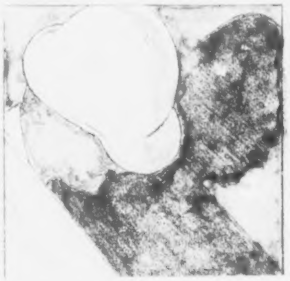
Sharkey also points out that most of those who predict price softness see the declines as being quite modest. Specifically, only about one in 25 put decreases in excess of 5%. Modest rather than big declines are also confirmed by a new Wharton projection which puts the slippage over the next six months at less than 1%.

One thing everybody (buyers, distributors, and economic forecasts) seems to agree on, however, is that the next few months will be pretty soft from a demand standpoint. Some 37% of SSCI respondents, for example, see a drop in incoming orders over the next three months—more than three times as many as those who are looking for some upturn.

Wharton, meantime, sees domestic shipments in the first quarter 1990 falling to 18.4 million tons—off 12% from a year earlier.

And last but not least are the buyers themselves. The latest NAPM Steel Committee pretty much confirms these projections, with 38% expecting a decline in purchases.

Wharton and steel buyers also agree with the SSCI that inventories are ready to turn down. And their assessment makes good sense—for not only is end-use demand flattening out, but there is no longer any problem getting as much steel as needed, when it's needed.



This month's breakdown

Index: 1982 = 100

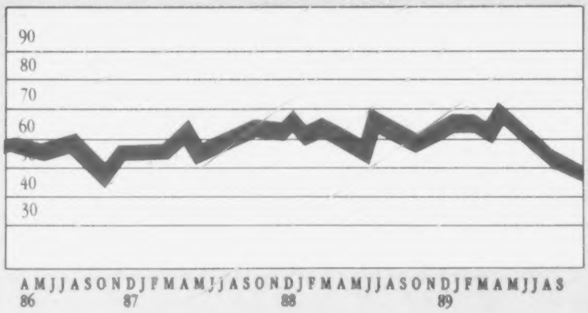
	Latest level (Oct.)	% change from: Month ago	% change from: Year ago
Bearings	125.5	0	6.2
Bolts, nuts, etc.	114.5	1.3	6.4
Chemicals, inorganic	110.4	0.5	7.4
Chemicals, organic	112.2	−0.5	−1.5
Concrete products	111.5	0.1	1.5
Corrugated cartons	112.5	−0.1	1.0
Cutting tools, small	111.8	−0.2	3.5
Electric lamps (bulbs)	125.9	0.8	2.7
Electronic components	119.6	0	1.1
Fans and blowers	120.0	0.1	5.4
Foundry and forge products	115.2	−0.1	3.8
Fuel oil (residual)	48.2	3.0	24.2
Furniture, commercial	130.2	0.1	3.6
Gasoline	65.3	0.6	16.4
Glass, flat	109.2	−0.6	−1.0
Glass containers	115.9	−0.3	3.2
Gypsum products	110.2	1.0	−3.0
Hand tools	129.3	0.5	6.1
Hand tools, power driven	117.0	0	4.6
Industrial furnaces	125.2	0	2.9
Integrating and measuring instruments	122.2	1.5	6.3
Internal combustion engines	116.4	0.3	3.6
Lubricating oil	112.1	0.1	4.1
Lumber millwork	128.1	0.1	3.9
Material handling equipment	113.0	0.4	4.0
Metal containers	115.0	1.8	3.5
Metal mill shapes (nonferrous)	136.7	−0.1	0.8
Metal tanks	111.8	0.4	5.3
Motors and generators	129.9	0.1	4.2
Motor trucks	136.1	10.1	4.2
Office and store equipment	109.5	−0.3	1.6
Paperboard	140.0	−0.2	2.6
Paper boxes and shipping containers	131.0	−0.1	4.1
Paper office supplies	121.9	−0.3	3.9
Paint	120.6	−0.2	5.8
Plastic resins	126.9	−1.8	−9.2
Precision measuring tools	125.3	0	3.2
Pumps and compressors	116.4	0.4	5.4
Refractories	120.1	0.2	4.3
Rubber belts and belting	118.0	1.1	8.6
Scales and balances	106.7	0	0
Steel products	114.5	0.3	2.0
Switchgear	119.4	0.2	4.0
Textiles, synthetic fibers	106.7	0.1	7.3
Textiles, gray fabrics	116.0	0.4	1.6
Tires and tubes	97.3	−0.1	2.9
Transformers and power regulators	119.1	0.3	9.2
Welding equipment	122.6	0.1	2.9
Wire and cable	149.1	1.8	11.9

NAPM procurement trends

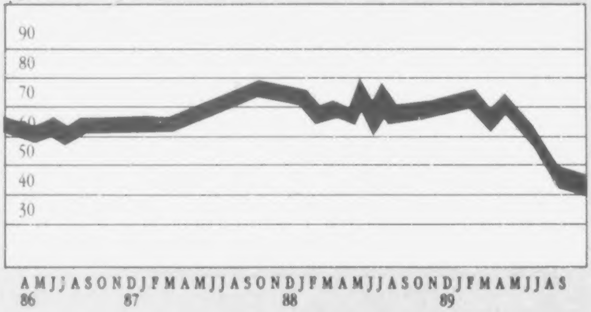
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

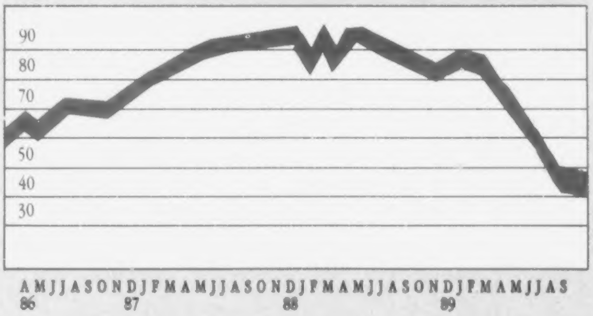
Inventories



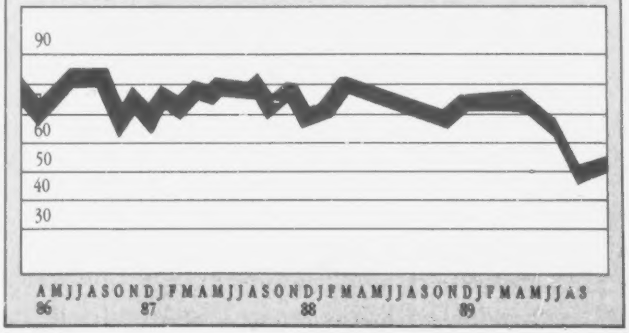
Speed of delivery



Prices



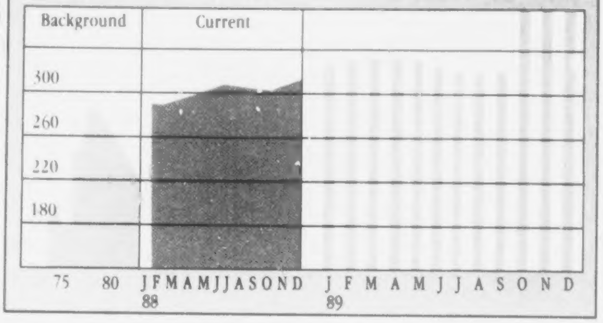
New orders



Raw material price barometer

(Index 1967 = 100)

Last month 327.1
Month before 327.0
Year ago 305.0



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt., merchant quality	18.70	18.70	16.50
Steel, bars, Pitts., cwt.	18.70	18.70	16.50
Steel, bars, C.R., Pitts., cwt	23.95	23.95	19.45
Steel, plates, Pitts., cwt.	23.25	23.25	23.25
Steel, plates, H.R., Pitts., cwt.	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt.	29.65	29.65	28.15
Steel, strip, C.R., Chi., cwt.	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.770	.805	1.075
Antimony, N.Y., dealer, lb.	.94	.94	.95
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb.	1.84	1.98	2.08
Brass, yellow, [sheet], lb.	1.80	1.94	2.04
Cadmium, N.Y., dealer, lb.	5.50	6.00	6.00
Copper, electrolytic, wire bars, refd., lb.	1.21	1.35	1.45
Copper sheet, over 24 in., lb.	1.93	2.07	2.17
Lead, common, N.Y., lb.	.41	.44	.40
Magnesium, pig ingot, [99.8%], lb.	1.63	1.63	1.58
Mercury, 20 fl. lots, N.Y., fl.	270.00	260.00	285.00
Molybdenum, oxide, dealer, lb.	2.94	3.18	3.45
Nickel, cathode, dealer, lb.	4.65	4.90	5.35
Platinum, dealer, oz.	500.00	488.00	574.00
Silver, N.Y., oz.	5.32	5.21	6.49
Tin, N.Y., dealer, lb.	3.39	3.92	3.41
Zinc, Prime West, East St. Louis, lb.	.770	.800	.725
Zinc, die casting alloy, No. 3, lb.	.855	.885	.835
PAPER			
Uncoated book #3 offset, ton	960.00	960.00	965.00
Watermarked bond, ton	1090.00	1090.00	1080.00
Gummed sealing tape, carton	18.87	18.93	17.87
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	780.00	780.00	685.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	410.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	.286	.285	.277
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.24	1.22	.89
Cotton middling, 1", N.Y., lb.	.693	.683	.523
Printcloth, 48", 80x80, N.Y., spot. yd.	.50	.50	.48
Army duck, 37", 13 oz., yd.	1.40	1.40	1.50
Blended printcloth, 64", 78x54, yd.	.77	.80	.66
20s combed yarns	1.94	1.94	1.80
Wool 64s, Staple, lb.	3.50	3.50	4.75

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.42	.42	.36
Ammonia, anhydrous, tankcars, Gulf Coast, ton	73.00	68.00	91.00
Benzene, petroleum, tanks, Houston, gal.	1.32	1.25	1.26
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid [over 25%], tanks, lb.	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.106	.106	.106
Glycerine, synthetic, tanks, lb.	.845	.845	.735
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.30	.32	.58
Naphthalene, crude, tanks, lb.	.16	.16	.16
Phthalic anhydride, tanks, lb.	.40	.40	.35
Polyethylene resin, low density liner film grade (market place), lb.	.350	.360	.515
Polypropylene, homopolymer grade (market price), lb.	.365	.410	.510
Polystyrene, general purpose grade (market price), lb.	.485	.500	.600
Polyvinyl chloride, pipe grade (market price), lb.	.335	.365	.440
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.335	.355	.450
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	117.50	117.50	138.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.020	1.020	.950
Xylene tanks, gal.	.900	.875	1.130
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	343.56	344.50	334.94
Lumber 2x2 pine, mbf, cl	337.08	329.70	319.18
Plywood, plyform, ¾", msf, cl	605.94	602.61	567.75
Plywood, ⅝", msf, cl	401.83	365.56	382.32
Cement, bulk, ton, tl	62.85	63.34	64.27
Sand, ton, cl	7.03	7.00	7.22
Ready-mix concrete, 3,000 psi/cu. yd.,	47.82	48.09	48.31
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	89.57	89.04	92.28
Reinforcing bars, whse base; per cwt	22.07	22.04	20.85
Asphalt paving AC-20	104.75	105.80	114.39
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	18.03	17.94	N.A.
FUELS			
Crude oil (W. Tex Int Cush), bbl.	19.90	20.25	14.00
Diesel (reseller rack, Chi), gal.	.6150	.5950	.4625
Fuel oil No. 2 (N.Y.), gal.	.5835	.5925	.4400
Fuel oil No. 2 (Gulf spot), gal.	.5730	.5510	.4255
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	21.50	20.00	17.00
Gasoline (prem unlded NY), gal.	.5900	.6560	.5875
Gasoline (reg unlded NY), gal.	.5150	.5710	.5675
Kerosene (reseller rack, Chi), gal.	.6990	.6750	.5110
Propane (Mt. Belvieu, Tex), gal.	.2100	.2213	.1950
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	93.00	97.00	114.00
Steel, No. 1 hvy., dlvd., Chi., ton	96.00	101.00	108.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.055	1.210	1.170
Copper, No. 2, East, wholesale buy, dlvd., lb.	.975	1.115	1.015
Brass, red, East, wholesale buy, dlvd., lb.	1.015	1.170	1.130
Brass, yellow, East, wholesale buy, dlvd., lb.	.560	.620	.510
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	.460	.480	.610
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.540	.560	.710
Zinc, old, East, wholesale buy, dlvd., lb.	.30	.30	.24
Lead, clean solids, East, wholesale buy, dlvd., lb.	.24	.24	.26
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	15.00
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	5.00
Old newspapers, Chi., ton	Nom.	Nom.	Nom.
Old white ledger, Chi., ton	110.00	110.00	80.00

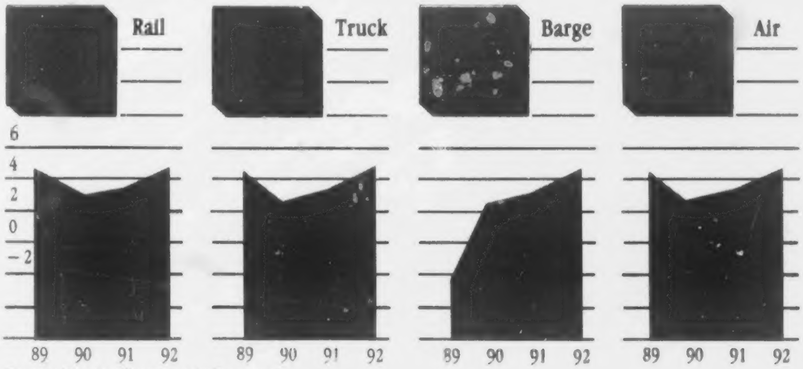
[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

In transportation...

Costs heading up in 1990

Freight cost outlook by mode

(percent increase over previous year)



Source: Wharton Econometric Forecasts

Freight tabs will be going up again next year—witness recent rate-boosting announcements by truckers, airlines, and some ocean-going shipping firms. But by and large, competition and a so-so economy should limit most of these advances to modest proportions.

That's what Wharton Econometric Forecasting Associates (the WEFA Group) is projecting in its regular quarterly rate review prepared especially for *Purchasing-World* readers. Specifically, the average increase for the upcoming year is put at only 2.7%—a bit under the 3.4% estimate made just three months earlier (*PW*, 9/89, pg. 28).

To be sure, some acceleration is seen beyond 1990. But again things should remain in the tolerable range—with 3.4% and 4.3% increases seen for 1991 and 1992.

To put this in perspective, all these estimates are under the 4.6% increase racked up in 1988. Behind this relative optimism: 1) still substantial rate infighting, especially in the less-than-truckload area, where this past April's 4.7% increase has been discounted away and 2) the railroads' fears of continuing inroads by truckers.

Another rate rise inhibitor: expectations of declining oil prices. This, plus restraint in other material cost areas, should help offset somewhat greater wage pressures.

In short, it looks like a tolerable situation for most of the nation's freight shippers—with trends on a mode-by-mode basis shaping up along these lines:

Trucking: look for a 4.6% average increase in rates this year (the same as 1988). This is more than 1-3% traffic increases would seem to warrant, but well under the percentage rise in trucker costs. In 1990, moreover, lower fuel tags should hold the rate of rise to 2.7% before a pickup to 3.4% in 1991 as labor rates start accelerating.

Longer run, the industry will probably have to deal with increasing state fees and taxes. Example: California—often a leading-edge state in transportation—is considering major changes, including a 54% increase in commercial weight fees and a 9¢/gallon gasoline tax. Voters will decide the fate of the proposals next summer.

Meantime, on the international front, Consolidated Freightways has announced a new truck/ship service which would considerably simplify shipping overseas. It offers a single price and one bill of lading for what had previously been a complicated multi-step process. The likely effect: more stable rates, with freight companies bringing more of the risk of fluctuating currencies.

Railroads: the current year's increase is put at near 4.6%—actually a bit more than the 4.3% estimate made three months ago. On the other hand, competition is expected to put a lid on future hikes—and it could also be a powerful tool in future labor negotiations.

In any event, only about a 3.0% advance is seen for 1990—and perhaps only a slightly bigger 3.5% boost in store for 1991. Both these figures should be pretty much in line with those envisioned for truckers.

Air cargo: shipment gains are continuing at a good pace—though they will probably not match last year's double-digit jump. Year-to-date figures point to about an 8% increase—with the biggest gains occurring in the international sector.

This latter market is already the focus of the largest hikes this year—a response to soaring demand and rising fuel and labor costs. Thus a rate hike this fall could be as large as 30% on some Pacific routes—following somewhat smaller North Atlantic boosts posted this past spring.

Looking ahead, competition will be the controlling factor on air rates from here on in—particularly in the international area as domestic players like Federal Express, Emory, and UPS expand their service overseas. Overall price hikes are forecast to average 5.1% this year, 2.9% in 1990, and 3.6% in 1991.

Water freight: the industry has been dominated by the effects of the 1988 drought which necessitated reduced loadings, longer passage times, and higher rates. Barge tariffs jumped 6.8% in 1988—a dramatic change from the flat-to-declining prices of previous years.

The big rate hike from the drought has been a one-shot deal—with prices already dropping back (averages this year will be down 2.6%). Assuming a return to average rainfall patterns, a further return to normalcy is anticipated, with barge rates rising 2.4% and 3.4% in 1990 and 1991, respectively.

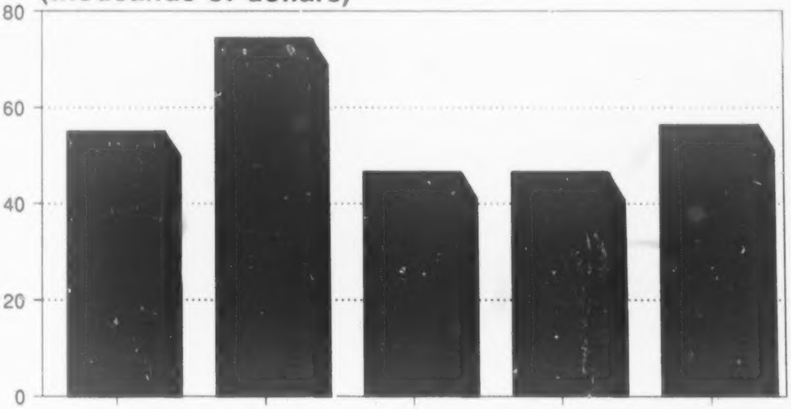
PW

PW's annual salary survey

Purchasing pros' numbers get better

by Ron Stevens,
managing editor

Salaries-averages by commodity
(thousands of dollars)



We love data in this information society: ah, numbers and number crunching! And each year, to add more numbers to the miasma, we ask our readership to divulge their salaries, bonuses, % of increase, etc. (all without names, of course) to put together the annual *Purchasing World* salary survey.

But this year's survey results were gratifying—for several reasons—as first, salaries, bonuses and raises were higher than last year's reporting, and second, the size of the sample was better than last year's, too. What's not to like?

To be truthful, the fact that a few respondents chose not to fill out the entire questionnaire, even though we shortened it once again to make it easier and less time consuming. This paranoia has to stop, folks. We aren't going to give away your secrets. And frankly, it makes a better, more informative picture if you don't withold your main commodity, responsibility or your zip code or... but you get the picture. Many of you want this information, even do planning and forecasting (and hiring?) based on it, so let's be cooperative.

(And for those of you who think that not including your zip code will help disguise your response, forget it—the postmark on your return envelope carries your zip. If we *wanted* to get it, we could.)

But this is digression. Again, the main point is that salaries are going up. Last year we reported on ranges—lows and highs by job title. This year we offer straight averages as well, for better comparisons. (We frequently get phone calls—around the time of your various salary negotiations—which seem to prefer definite numbers rather than ranges.)

As has been our practice in the past, we sent the questionnaires to our A list of subscribers—job titles in the executive category. Our feeling is that, compared to a shotgun approach to gathering data, this focussed method gives higher quality information. As part of a continuing process, we also further refined our survey to make it easier to answer (and easier to tabulate).

Who responded

Although the response percentage was more than 25% of the total number of questionnaires mailed out, we got very few, as you would expect, from the lower job titles such as buyer trainees and expediters—and none at all this year from junior buyers. More than 40% of our respondents were purchasing directors, with vice presidents of purchasing comprising nearly 20% and purchasing managers a little over 13%.

The survey also elicited responses from all 50 states, and from SIC codes from 10 to 97 (with a small group of "others").

An interesting side note: as in the past, we offered our fax number for those so inclined. The first several responses came in that way—and then no more. Judging by the total number of faxes received, this doesn't seem to be respondents' favorite method of communication—probably because security is a factor when you put your response on the machine. But the sudden fall-off in such responses suggests that people who want to be blindingly prompt use fax—those who handle business at a slower pace use the Federal mails.

Buyer trainees reported in 1989 that they earned from $18,000-24,000 per year, with the average at $21,000. They did not report any bonuses, although their average increase from the previous year's salaries was an average of 12%.

Expediters ranged in salary from $16,800 to $40,000, with the average figure being $28,400. The average increase in salary was 13.5%.

Buyers told us that they earned from $25,200-50,000 in salary, with the average at $37,640. Buyers' average raises were set at 21.4%. (Here's an example of not filling in all the blanks—not all buyer respondents filled in this answer, skewing the percentage. We doubt too many supervisors would swallow an average increase like this at your next salary go-round.) Average bonus here was reported as $7,000.

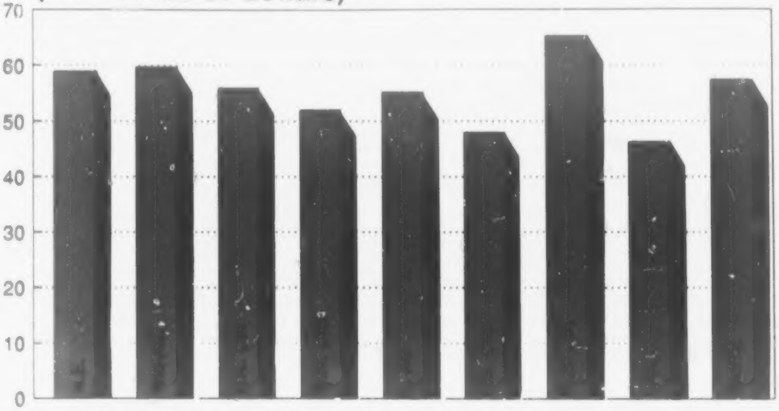
One **senior buyer** responded (well, it *does* make the math easier) with a salary of $60,000. This person's raise was listed at 7%, with an annual bonus of $9,000.

For **purchasing agents**, the range was from $14,000-85,000, with an average salary of $40,795. The average raise for this category was 9.3%, with an average bonus of $6,600.

One of the larger categories of respondents, **purchasing managers**, reported an average salary of $46,621, with the range extending from $18,000-$165,000. The average bonus was the same as for purchasing agents—$6,600—and the average raise was 7%.

Purchasing directors, the largest category of respondents, reported a salary range from $20,000-184,500, with an average of $57,393 per annum. For bonuses, these pros received an average of $11,000, with an average percentage of salary increase set at 6.2%.

Salaries by regions
(thousands of dollars)



Vice presidents of purchasing—the second largest group of respondents—earn from $18,000-135,000, with the average wage settling at $61,091. They received, on average, 8.1% salary increases, with an average bonus of $16,500.

Materials managers make from $25,500 to $84,000 per year, with an average salary of $46,574. Their bonuses average $10,600, and their raises averaged 6.4%.

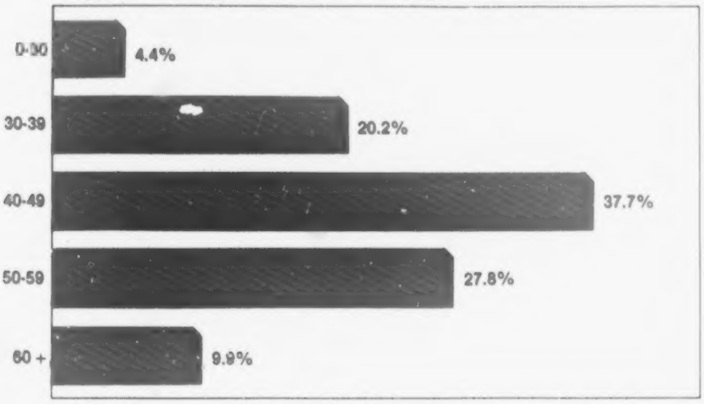
Materials directors were the fourth largest category of respondents, and averaged $62,852 in salary within a range of $32,500-140,000. They averaged raises of 6.8%, with an average bonus of $10,400.

How many are CPMs?

At the top of the heap in average salaries were **vice presidents of materials management** with $82,559 in salary. This job category ranged from salaries of $27,000-170,000, with average raises of 6.9%. Their bonuses averaged $23,100.

Sixty-six percent of our responses came from people at the corporate level of their businesses, 21% were at the divisional level, and 12% were located at their companies' plants.

Where is the big money? If you're planning your career in purchasing, where will you have to go to find the highest salaries? And what commodities (responsibilities) pull down the most money? We looked at that two ways. Our respondents in the southwest central region of the country (zip codes 700-799, and 885 had the highest average, with $65,270. Second was the middle Atlantic states, with an average of $59,678. Third was the New England area, averaging in at $58,932. In order after that was the Pacific states ($57,375), then the east north central region ($55,927), southern Atlantic ($55,184—although it includes the highest reported salary figure), west north central ($52,002), east south central ($47,994), and the mountain states ($46,280—although the smallest number of returns came in here, which could have skewed



Age categories of respondents

the average).

How about those women?

Each year, interest is expressed by readers in how women are faring in the purchasing function, relative to salaries and other criteria. Here's our report: 8% of the respondents to this year's survey were women—and 7% of those women hold the Certified Purchasing Manager (C.P.M.) accreditation from the National Association of Purchasing Managment (NAPM).

But what do they make? The news here is pretty good, we feel. Although not as well paid as their male counterparts (unfortunately, there's no surprise there), our respondents averaged $44,837, within a range from $16,800 to $145,000. Lowest reported bonus was $1,000, with the high reported to be $30,000; average percentage of annual salary increase was 6%.

To put the numbers on the page, just how do salaries for women stack up against salaries for men? Looking at overall respondents to our survey questionnaire we find that the salary average above—$44,837—compares with a men's average of $58,710, with a low of $14,000 and a high of $184,500.

Going back to the overall survey, meantime, just over 18% of *all* respondents were CPMs. Their average salary was noticeably higher than non-CPMs, too—a subject that often comes up in these discussions—with holders of the certification averaging $63,971/year *versus* $56,113 for non-accredited purchasing pros. That's a tidy 14% difference, for those of you temporarily away from your calculators.

So why is that, you ask? One of the reasons, we suspected, was that someone with a CPM was probably older than a non-CPM, so that time in the purchasing profession (or just flat seniority) would affect the salary number, too, but here was the surprise: our responding CPMs' average age was 48, where non-CPMs averaged out to 45.

What educational backgrounds do purchasing pros have? We found that the largest category, four-year business degrees, comprised 29.5% of our respondents. After that came just over 15% with MBAs, 13.6% with no college, 10.4% with liberal arts degrees, 9.8% with associate degrees, and 5.9% with other graduate degrees. A number of responses fell into no category we offered.

Although various studies we've seen (including one from NAPM) give higher numbers for PMs supervision responsibilities, our survey showed that, on average, respondents oversaw 11.3 people. Slightly more than 45% supervised from 1-4 people, 26.2% handled 5-9 people, and 6.9% have only themselves to be responsible for.

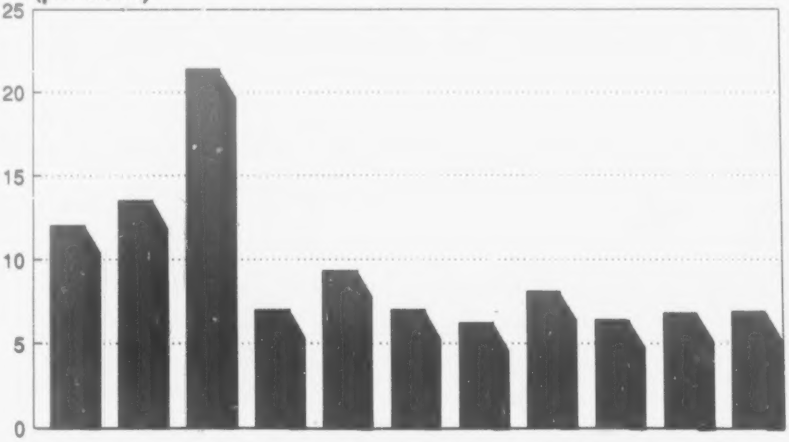
Some final figures

We thought you might want to know what other respondents spend, and what their companies' annual sales figures are, too. Average department spending averaged $104.6 million; the average sales of the companies represented in our survey amounted to $1.5 billion.

This breaks down by region to the west south central area having the highest numbers, followed by the east north central region and then the middle Atlantic states.

The other category of interest to purchasing professionals would be what commodity responsibilities bring the best salaries. Chemical buyers in our survey reported salaries which averaged to $74,415. (Our highest-paid respondent, with $184,500, was in this category.) The next highest was electronics, with a $56,387 average, then steel, with an average salary of $54,975. Almost tied for runner-up were paper and aluminum buyers, with $46,624 and $46,612 respectively. **PW**

Raises by job titles
(percent)



The price lull's for real

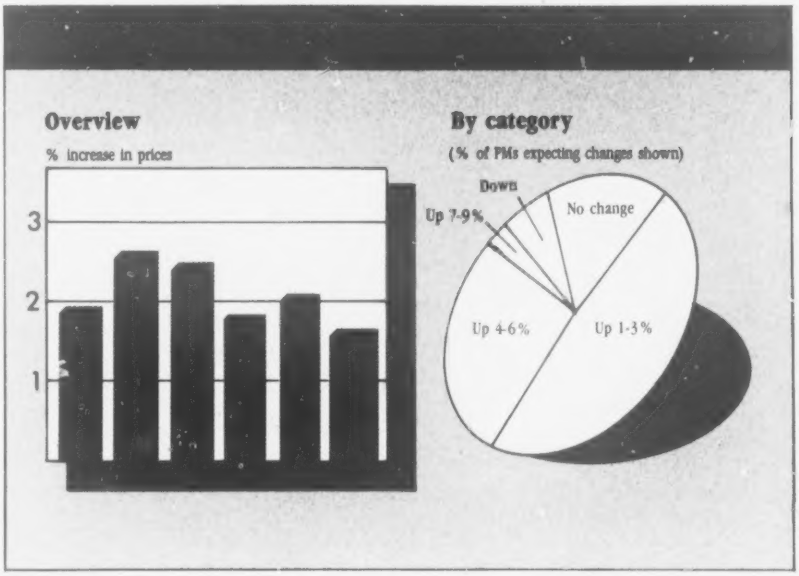
The price lull of the past few months is no aberration. At least that's what top purchasing managers, responding to a new nationwide *Purchasing World* survey, are saying.

True, they still don't expect to completely avoid increases over the upcoming year. But by and large, the majority of those queried feel the boosts will tend to be smaller and more spotty than those experienced in 1988 and early this year. And a few optimists actually say their overall costs could edge lower.

Commenting on the changing price climate, one East Coast PM observes, "Sure, an all-out buyers' market is too much to expect. But given today's improving supply/demand balance, we should have a lot more bargaining leverage in the months and quarters immediately ahead."

Indeed, such leverage is already being reflected in the new estimates. Six months ago when PMs were asked about their estimated 1989 increase, their projection called for nearly a 5% advance. Now with the year practically over, the figure has been toned down to near 3%.

And judging from the survey responses, this deceleration will be continuing. Some highlights of the just-completed study:



● **The overall 1990 increase:** the average advance is put at 2.2%—nearly a full percentage point under this year's estimate. Also indicative of better days ahead: six months ago when a similar question was asked, about 1990, the expected increase was put in the considerably higher 4-5% range.

Equally impressive is the fact that 43% of the respondents expect 1990 to be better than 1989 as far as price boosts are concerned. That's more than three times the 12% who fear some further acceleration.

● **1990 raw materials:** the average increase here is put at 1.9%—slightly more than a full percentage point under this year's estimated 3.1% advance. Much of this is predicated on continued easiness in such key areas as steel, nonferrous metals, plastic resins, chemicals, and paper.

● **1990 component parts:** the 2.5% increase anticipated here is higher than for any other product category. But even in this sector some deceleration is seen from this year's estimated 3.6% advance—as increases in bearings taper off and electronic components actually begin to weaken.

● **1990 machinery:** the 2.4% increase expected for the upcoming year is surprisingly small—for it comes at a time when equipment sales are booming. One possible explanation: continuing foreign competition. Overseas tag hikes, for example, averaged out at less than 2% over the past 12 months.

● **1990 energy:** only a 1.8% rise is projected—with buyer comments indicating that most of the hold-the-line optimism is based on the expectation that crude oil prices will remain relatively stable as OPEC squabbling persists.

● **1990 freight:** a 2.0% increase is projected. Further confirmation that things are pretty much under control here comes from a new Wharton forecast (in this issue) which suggests only a slightly higher 2.7% boost.

● **1990 office equipment:** a very small 1.6% increase is seen. Even this could be an exaggeration—for survey responses indicate that most big-ticket electronic items like PCs, faxes, and copiers are expected to edge lower. Then, too, a new survey by the Quill Corporation (see PW Predicts) indicates that overall prices here are more likely to edge down than up over the next six months.

One thing most buyers would agree on is that they intend to take advantage of the expected improvement in the bargaining climate. High on their list of strategies: more hard-nosed bargaining, consolidation of purchases for volume breaks, more long-term pacts, increased emphasis on value analysis, and further exploration of overseas alternatives.

One buyer sums it up: "No question that we'll do better than last year. Shaving one percentage point off our inflation rate seems all but certain. And we could do better than that if the economy really slows down." **PW**

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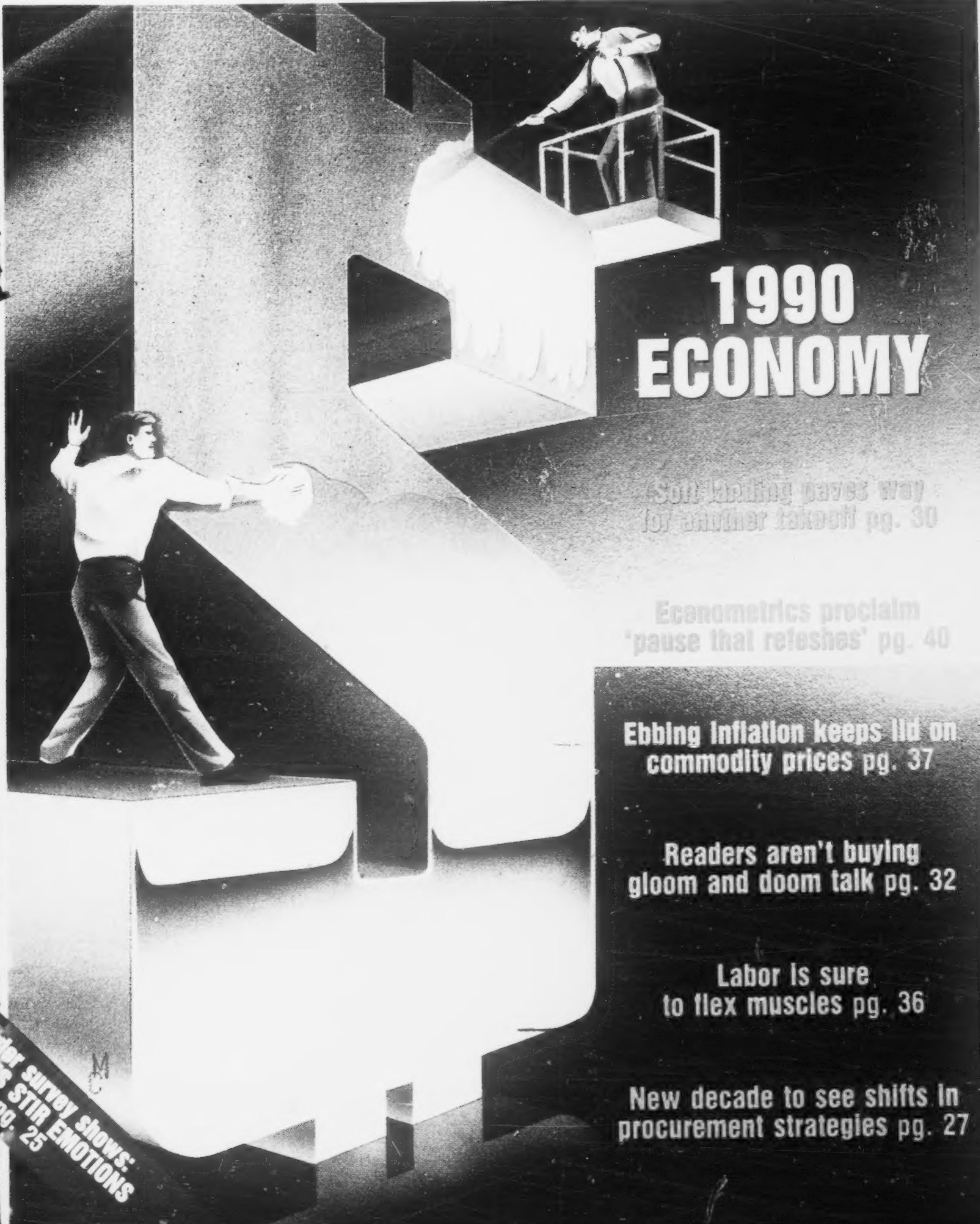
- Transportation donnybrook brewing
- Managing your suppliers
- Dr. Ken answers your questions
- A look at purchasing in the 90s

PurchasingWorld

THE BUYER'S MAGAZINE

JANUARY 1990



1990 ECONOMY

Soft landing paves way for another takeoff pg. 30

Econometrics proclaim 'pause that refeshes' pg. 40

Ebbing inflation keeps lid on commodity prices pg. 37

Readers aren't buying gloom and doom talk pg. 32

Labor is sure to flex muscles pg. 36

New decade to see shifts in procurement strategies pg. 27

der survey shows:
s STIR EMOTIONS
pg. 25

CONTENTS

January, 1990, Vol. 34, No. 1

COVER STORY

30 1990: another year of expansion
PW's staff economist, Dr. Roger Williams, sees lower interest rates, monetary easing, and improving productivity making 1990 another growth year.

33 Readers view 1990
Survey of the month shows they're not buying all the gloom and doom talk.

34 1990s: some good, some bad
Wharton Econometric's Dr. Nariman Behravesh sees a mostly positive economic future ahead.

36 Labor pacts active
Here's a list of important labor agreements coming up for renewal in 1990.

37 Industrial products take low road
Data Resources Inc. tells purchasing pros that commodities will be good bargains this year.

Experts' consensus is that the economy's luster can be maintained in 1990. Page 30

Buy American

PW's new survey reveals readers' opinions on imports. Page 25

COVER STORY

40 Econometric models are 'refreshing'
A comparison of three top econometric models shows 1990-92 to be promising.

41 View from the top
Top management of vendor firms sees only modest commodity price increases ahead.

FEATURES

27 Purchasing into the '90s
What will the new decade bring to PMs? Industry authority Paul Farrell points out changes.

32 Imports still stir emotions
Among purchasing pros, 82% favor buying domestic products if they can, PW's new survey shows.

44 Managing your suppliers
A manufacturing and management consultant points out that working with suppliers is a key to success.

DEPARTMENTS

4 PW Pointers
Fastener failure...National fax numbers...Pre-engineered buildings

6 Editorial
The 1990s will test readiness for the 21st century

8 Letters
Back-door selling gets comment...Readers want more details on economic projections

9 Inside purchasing
Dr. Ken Killen discusses purchasing issues of the day

11 PW Predicts
Buyers' market in aluminum...Express mail costs going up...Textiles will stay stable...EDI innovation is taking off...Soda ash up again

19 Business Datatrak
Key trends are non-defense capital goods, construction awards, help wanted ads...Fleet car choices affect operating costs

48 Negotiations
Buying for R&D

49 Software
Promoting purchasing

50 Transportation
Donnybrook ahead

52 Office
Buying the right printer

69 Buyers' Lit Digest
70 Products
72 Literature
73 Advertisers index
74 Classifieds

76 Purchasing and the law
Express warranties

PurchasingWorld

PW POINTERS

Plating can add to fastener failure

Plating applied to fasteners to minimize the danger of corrosion can contribute to failure rates, warns the Unbrako Div., SPS Technologies, Newtown, PA. The failure mode is hydrogen embrittlement, caused by hydrogen that is entrapped during the plating process. Baking after plating is the most effective way to minimize the danger. It should take place at 375 degrees F, starting within one hour of plating and continuing for 23 hours, the manufacturer of high strength precision fasteners advises. Existing MIL specifications, which call for a bake cycle of three hours within four hours of plating, are expected to be revised to include the tighter requirements, the firm claims.

National directory lists fax numbers

When Fax numbers cannot be quickly located, the ease and speed of the fax machine is wasted. A new publication, "The National Fax Directory 1990" solves that problem by listing more than 80,000 numbers of major companies and organizations. Each entry lists the phone number, address, and zip code so that the one directory can be used for any contact information need. The numbers are listed alphabetically, by subject, and by region of the country. *Gale Research Inc., 835 Penobscot Building, Detroit, MI 84226.*

Smart purchasing pays big dividends

United Technologies Corp.'s consolidated purchasing program is paying big dividends. Under it, various UTC divisions are pooling their purchasing to achieve maximum buying power. The company's jet engine manufacturer, Pratt & Whitney, combined its machine tool requirements to buy from two firms—Giddings & Lewis and DeVlieg-Sundstrand—to earn quantity discounts totaling $1.2 million. "By entering into long-term agreements with certain suppliers, UTC is able to reduce costs and obtain higher quality products," says George Sanford Jr., vice president of corporate purchasing. The Pratt & Whitney purchases were made specifically through UTC's Capital Equipment and Rolling Stock Council.

System keeps track of & logs packages

Shippers can start saving time and eliminate logging of packages by hand with a new Parcel System 4 UPS Register developed by Postalia Inc., Downers Grove, IL. It rids the shipper of the time-consuming and error-prone process of manually making entries into a standard register book. Special costs such as COD and declared value can be sheeted on each package. Other advantages: when running to verify date or test tapes, the unit will not distort totals; there is no need to put money into the register as it simply records charges for billing later. *Postalia Inc., 1423 Centre Circle Dr., Downers Grove, IL 60515.*

Pre-engineered building can solve space crunch

Pre-engineered small span metal buildings may be the answer to your space and storage problems and can meet a variety of industrial applications, reminds Louis Gilmore, president of Miller Building Systems, Springhouse, PA. Used to store excess inventory, vehicles, equipment, or raw materials, such buildings can even be specially designed to store hazardous materials or can be used as electrical substations, generator buildings, pipeline stations or even small office buildings or computer rooms. *Miller Building Systems, P.O. Box 482, Springhouse, PA 19477.*

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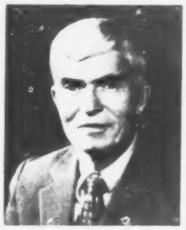
Indicators agree on near-term trends

Purchasing managers, vendors, business analysts, and the big econometric models are all pretty much of the same mind these days when it comes to projecting near-term price trends. In a nutshell, all see smaller, more scattered increases and, equally important, a lot of bargaining leverage for most industrial buyers.



The specifics, most of which are contained in the special 1990 forecast section in this issue, can be summarized as follows:

- **Purchasing:** the prestigious National Association of Purchasing Management (NAPM) Business Survey Committee anticipates that procurement costs of its more than 250 responding firms will advance at a less-than-2% rate in 1990. That compares to the 3.7% boost projected a year ago for 1989. *PurchasingWorld* readers, while not quite as optimistic, expect some deceleration, too. Our latest survey calls for an average 3.7% increase—down from the 4%-plus estimate made a year ago (for 1989).
- **Vendors:** a new McGraw Hill/DRI survey of leading producers is now calling for only a XX% increase in the prices of the products they sell this year. As recently as this past May, this same group's forecast (covering 1989) called for a considerably higher 4.6% advance. This downgrading is also supported by a recent Dun & Bradstreet survey of plant executives. This study finds only 50% of those queried now expecting increases in their product prices over the subsequent 12-month period—down from the 59% reading a few quarters earlier when a similar question was posed.
- **Economists:** Dr. Roger Williams, ***PW***'s own economic consultant, sees industrial wholesale tags (a close approximation to the typical industrial purchasing mix) rising 3.5% this year—significantly under 1989, when this same index jumped 5.2%. The Wharton Econometric Forecasting Associates group's Dr. Nariman Behravesh—looking at the more comprehensive GNP price deflator—expects averages to be up 4-4.5%.
- **Mathematical models:** a compendium of three econometric forecasts puts this same GNP deflator advance at 4%—a fraction under actual 1989 levels. And when it comes to another index, finished producer goods, the improvement is a lot more impressive—with the advance here dropping from 5% in 1989 to an estimated 2.9% in 1990.

Why all this optimism about keeping inflation under wraps? Read our detailed forecast of 1990 economic conditions, and a combination of factors is suggested. For one, demand/pull forces which sparked the relatively big hikes of 1988 and early 1989 have pretty much dissipated. Sure, demand will continue to rise—but at a much more modest rate. Couple this with still-rising capacity, and market pressures should continue to ease.

Cost/push inflation is also likely to remain under control. And while wage rates could move up an additional one half to one percentage point—there should still be a modest productivity offset—thus keeping unit labor cost increases in the relatively tolerable 2-4% range. This can't be underestimated as a price-rise deterrent, since roughly two-thirds of every sales dollar in the country can be traced back to some kind of labor outlay.

Other price-restraining factors expected to be operative over 1990 would have to include 1) falling interest rates—a trend expected to hold down inventory carrying costs, 2) steady energy quotes as contrasted to last year's runup, 3) low food inflation—put at 3-5% this year *versus* near 6% in 1989, and last but not least, 4) continuing import competition, as the dollar holds onto most of its recent gains.

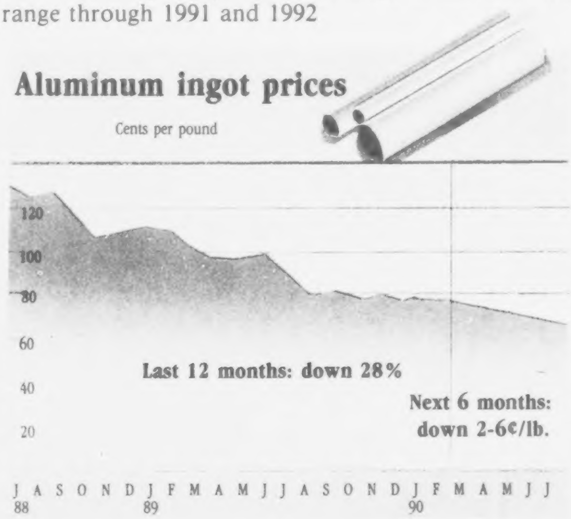
In aluminum, buyers call signals

CURRENT SITUATION: The light metal has fallen from its once-lofty perch. Volatile ingot quotes, for example, are down close to 30% vis-a-vis a year ago. And the easing has been spreading—with declines now being reported in such other areas as common alloys and aluminum scrap. **All of this softness reflects a basic change in the metal's fundamentals**

DEMAND: Domestic shipments in 1989 should hit about 17.5 billion pounds—not that much above 1988's estimated 17.2-billion-pound levels. **As for the new year—look for another small gain—to about 17.7 billion pounds.** The global picture also suggests some slowdown. Behind this respite: slower construction and auto chew-ups. But over the longer pull, 3-4% annual gains still seem attainable. One reason: **more penetration into the auto market.**

SUPPLY: Improved availability is perhaps best evidenced by rising global inventories, estimated currently to be the equivalent of a 1.7 month supply (up from the 1.4 month level of a year earlier). An additional advance to roughly 2.1 months is likely for 1990. **On the other hand, it would be unrealistic to anticipate a major glut.** Reason: mills are still operating in excess of 96% of their potential and not all that much new capacity is coming on-stream over the next few years, as financial problems delay Brazilian and Venesuelan expansions.

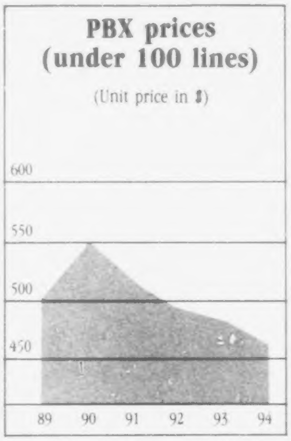
PRICE OUTLOOK: Figure on a continuing ingot downdrift. But declines will be uneven (interrupted by sporadic rallies) and should be less precipitous than the slide of the past year. This, in turn, should result in a broadening array of lower mill product tags. **The longer-term outlook also suggests basically soft markets**—with ingot expected to average in the 70-90¢/lb. range through 1991 and 1992


Aluminum ingot prices

Cents per pound

Switchboard prices down

The price downtrend on private branch exchanges is likely to be reversed on systems with under 100 lines. So predicts the Eastern Management Group, which sees unit quotes jumping $50 on these models in 1990 (to $550). But the decline should resume after the current year—with prices in 1991-92-93-94 falling to $522, $496, $480, and $466 respectively.


PBX prices (under 100 lines)

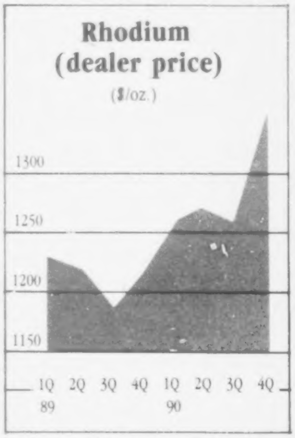
(Unit price in $)

Express mail costs go up

The over-$8-billion U.S. air express package and letter courier industry is poised for 17% annual increases in volume through 1993. But despite this spurt, prices should rise only 0.4% yearly according to the Freedonia Group—with the research outfit attributing these small rises to continuing competitive pressures. Also the industry will increasingly emphasize packages over letters because of 1) the greater competition in the latter area, and 2) inroads being made by fax machines. Another prediction: international business should rack up the biggest increases (about 30% a year).

Rhodium limit is the sky

The sky seems to be the limit here as strong buying and shortages push prices up well above $1,700/oz. range. That's more than 30% above levels prevailing just one year ago. Behind the surge: the Soviet's absence as an active supplier to the spot market. Moreover, the bull market is likely to persist—especially as 1991 approaches, a time when Western European car makers will be switching to catalytic converters containing the precious metal.


Rhodium (dealer price)

($/oz.)

Many factors drop zinc

Another 4¢/lb. decline has dropped the plating and alloying metal close to 25% under last year's 95¢/lb. peak. Several factors are contributing to the slide, including 1) resolution of production and labor problems around the globe, 2) a slowdown in consumption, 3) a gradual buildup of surplus metal, and 4) weak London Metal Exchange quotes. Nor is any near-term turnaround likely, as auto production eases and new mines and smelters come onstream.

Steel hurt by autos

Demand continues to disappoint, hurt in large part by plans for reduced auto production. In any case, first half 1990 shipments are likely to drop under the 40-million-ton level (*versus* 43.8 million a year earlier), with only little improvement anticipated after mid-year. As such, prices look to remain fairly soft—despite new mill attempts to boost sheet prices 3-4%. Upshot: the composite (spot plus contract) quote should remain around $520/ton through the year—about 3.5% under last spring's high.

Fax cards drop, too

These PC attachments, alternatives to stand-alone machines, are now selling for as little as $249 (though some sophisticated models still command upwards of $1,000). A plus: you can send faxes directly from your PC. One disadvantage: the cards are harder to use than stand-alones. In any event, average prices are expected to continue coming down. According to estimates by Dataquest, the typical card will drop from $579 last year to $391 over the course of 1990—and further to $335 by 1992.

Discounts for stainless

Large volume discounts to distributors have been upped between one and five percentage points (to near 25%). And some industry observers say the shading could be even more substantial than that (based on the competitive prices being offered to final users). Buyers supplied directly by mills are also reaping benefits, with reports of selective discount increases of two and three percentage points—especially on 300-series products.

Soda ash pushes up

Producers have been successful in pushing up off-schedule prices about $10/ton over the past year (to an average $76/ton). Long-term contract buyers are not escaping unscathed, either—and are being asked to pay $7-10/ton more—enough to push quotes on 2-year contracts up into the $65-67/ton range. All these boosts, however, leave prices far under the official $93/ton list—a price that's likely to remain unchanged for quite some time.

Inventories sway copper

Rising inventories are taking their toll on copper prices, with quotes off

Innovation spreads wings

Electronic data interchange (EDI) is beginning to take off, though the potential for this innovative approach—which allows firms to transmit computerized messages instead of paper documents—has hardly been tapped.

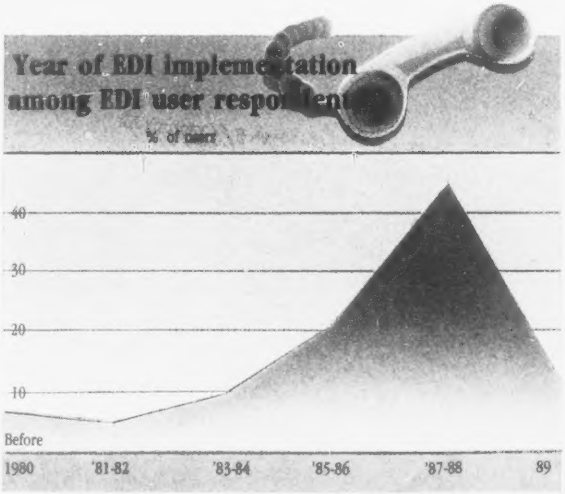
These are the key points of a new Frost & Sullivan report titled "EDI User Implementation Strategies." On the underutilization score, the New York-based consulting firm notes 1) many industries have yet to try it, 2) small businesses are conspicuous by their absence, 3) volumes within a firm are low, and 4) few departments within a firm use it.

On the other hand, four factors should be making EDI increasingly attractive over the next year or two. These include:

- a growing choice of products. In the early 1980s most companies had to write their own EDI software—thereby running up high implementation costs.
- products and services have become increasingly functional, thereby minimizing user customization and cutting costs.
- software product prices have dropped sharply because of technological advances and increasing competition.
- industry associations and user groups are now offering increasing support in pointing up the most appropriate EDI systems.

These pluses may already be having some effect. Thus, 46% of user respondents surveyed by Frost & Sullivan implemented EDI between 1987 and 1988 (see chart). Equally significant, some 48% of non-users expect to adopt sometime during the next two years.

The study also recommends that new users explore the use of third party value-added networking (VAN) service providers. The consulting firm feels that these service outfits can be particularly useful when it comes to solving many of the logistical and technical problems when EDI is to be applied to multiple trading partners.



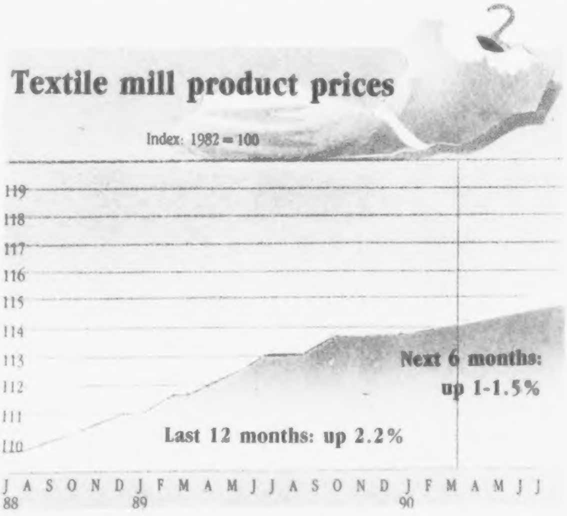
Textiles mixed, mills mark time

CURRENT SITUATION: The market is mixed—with some areas doing tolerably well, others rather poorly. Factors pressing down in recent months would have to include 1) retailer financial problems, 2) new increases in imports, and 3) basic uncertainty about where the economy is headed. Sign of the times: mill output, while above a year ago, has been marking time of late. **And prices have tended to flatten—with mill averages up less than 1% over the past six months** and some print cloths actually turning somewhat softer.

DEMAND: Mill production looks to be up only 1-2% in 1990, hurt in part by imports which, according to some estimates, now account for as much as 55% of the entire market. In any case, gains will be well under the near-6% increase of the past 12 months—most of which was recorded in the early part of the year. **This, in turn, should mean reduced fiber demand gains.** Mill consumption of cotton, for example, will rise only fractionally, from 7.6 million bales to 7.7 million. And while manmade constructions may average a bit above 1989 averages, all of the advance should take place in the last two quarters.

SUPPLY: Few problems are anticipated—despite the fact that mill operating rates remain in the relatively high 90%-plus range. One reason: capacity continues to increase at about a 3.5-4% rate—actually above the 1-2% gain projected for demand. There are, of course, some exceptions to this still basically easy situation. On the gray goods front, some 6,000 narrow looms have been shut down and could present a problem should demand take a sudden spurt. And in the fiber area, polyester staple should remain fairly snug. On the other hand, wool supplies have eased as global stocks begin to mount.

PRICE OUTLOOK: Any near-term increases will be on the modest side. To be sure, mill attempts to pass along last year's big fabric hikes will continue. But generally speaking, these sellers will have to settle for less than they want. Also the big price runups in fibers are over—in manmades, which jumped more than 7% over the past year, and in cotton and wool, where some softness has recently been noted. Best bet then for overall mill products—only about a 1-1.5% boost over the next six months—**pretty much a continuation of the pattern of the past year.**



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more than 20¢/lb. from early-last-fall levels. Behind the slippage: resolution of most of the mine disruptions around the world. On the other hand, it would be unrealistic to expect the metal to fall through the floor, for the current excess is not great. Best bet: a continued slow downdrift—with prices over 1990 averaging 90-95¢/lb.

The office: shredders up

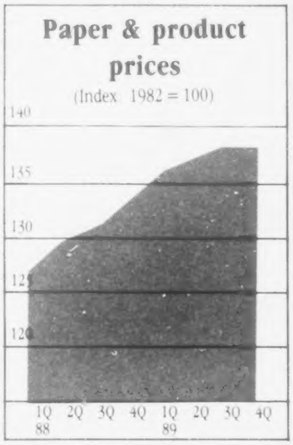
New cordless office phones are being offered by AT&T. Priced in the $485-560/set range, the new equipment can handle as many as five lines simultaneously. Another office trend worth noting: the growing use of shredders (now rising 10-12% a year). While heavy-duty types equipped with compactors sell for $9,000-20,000, some mid-range office models go in the relatively low $2,000-3,000 range.

Lead sags to new low

The heavy metal continues to sag, with a new decline dropping the going price into the upper 30s—well under the 43.5¢/lb. high of last year. Behind the softening: some tapering off in demand from battery makers, plus growing supplies (reflecting a large overseas expansion in secondary smelter production). All of this suggests the possibility of further price softness, with quotes dropping below the 35¢/lb. barrier by sometime this spring.

Paper prices flatten out

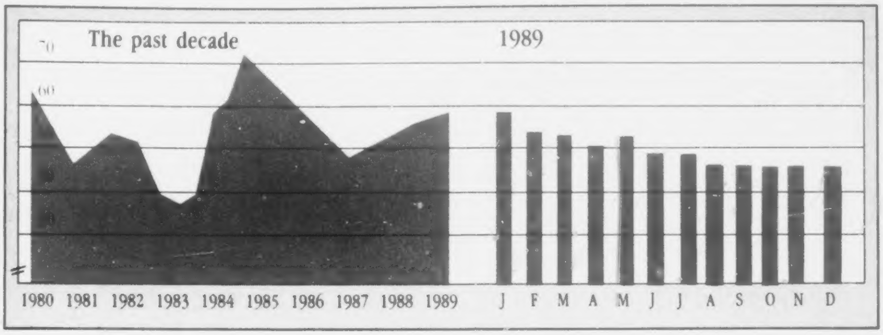
The flattening out price trend of late last year persists. All in all, newsprint is now 12% under a year ago, with such typical printing and writing grades as forms bond and uncoated groundwood both off about 6% over the same period. Bucking the trend: a new move to boost cut-to-size photo paper by $50/ton. But it's still not clear whether the market will accept this kind of hike given current order levels.



BUSINESS DATATRAK

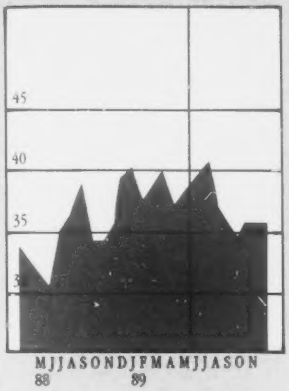
N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)

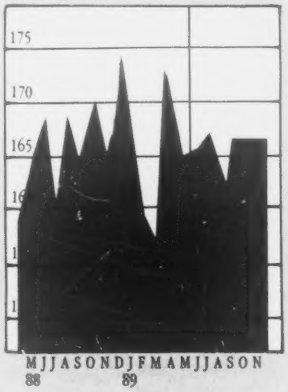


Leading indicators

Non-defense capital goods orders Billions of dollars



Construction awards
Index: 1982 = 100



Help wanted
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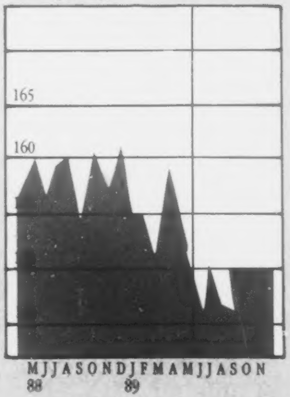


KEY ECONOMIC TRENDS

1990 starts softly

The new year is beginning on a relatively soft note, but as emphasized in this issue's special 1990 forecast section, the lull is likely to prove only temporary.

In any event, the current disappointing spate of new numbers coming out of Washington has to be viewed in proper perspective. Take the recent slide in non-defense capital spending. For one, there is now at least some hint of leveling off (see top chart).

More important are the indications that some kind of rally in this key series may be in the making—if not now then certainly by spring. Historically, a capacity utilization rate near the current 83% level has been sufficient to generate continuing increases in plant and equipment spending. And judging from new capital spending surveys, the same pattern looks to be shaping up for the new year.

Building activity, too, may be holding up better than anticipated. Clearly, contract awards (second chart) would seem to indicate as much. This lead indicator of future construction outlays, while zigzagging, has remained at relatively high levels in recent months.

And again there is no sign of any imminent change. Indeed, somewhat larger mortgage rates may actually give the critical housing sector a badly needed fillip. True, declines are likely in commercial and manufacturing facilities, but these will be more than offset by strength in the water use and control, transportation, utilities, and communications areas. Upshot: total dollar commitments for construction could be up as much as 5% as a whole.

Then there's employment—a crucial determinant of consumer confidence and hence consumer spending. Right now, help wanted advertising (last chart) is down. But there are plenty of signs that this reflects the current manufacturing lull rather than any long-term weakness.

A new survey by Manpower, Inc., for example finds little more than a seasonal hiring slowdown in prospect for this first quarter. Indeed, a slight uptick in totals is possible since the 20% who see an increase in their payrolls actually tops the 12% who plan on cutbacks.

Also worth noting, the new figures are similar to those of a year ago when the comparable numbers were 22% planning for additions *versus* 11% calling for reductions.

Further confirmation that the economy will remain in uptrend comes from the latest Dun & Bradstreet survey of top business executives. True, the current mood is cautious, but survey findings show few if any inflationary or inventory excesses—something which is prompting the information-gathering firm to predict an improving economic picture by early spring.

Still another positive sign: factory managers for the most part are maintaining their brisk purchases of industrial distributor products. Current levels here are running about 10% ahead of a year ago—other things being equal, this would seem to indicate that these people are relatively optimistic about maintaining or even upping their production schedules.

What does it all add up to? Certainly no declines. Output—now that the Boeing strike and natural disasters such as the San Francisco earthquake are behind us—could well begin to edge up again.

Our recently revised first quarter industrial production forecast tells the story. As of now we are predicting a 2.25% annual rate of advance—a significant, if modest, improvement over the sluggish 1.5% pace reported during the last three months of 1989.

Car choice affects costs

Choice of fleet cars can make a big difference in overall driving outlays.

Just how big a difference is revealed in a new study of some 15 new 1990 models by Runzheimer International. Assuming a 36-month, 60,000-mile retention cycle, the Wisconsin-based management consulting firm estimates overall fixed and operating costs can vary from as low as $5,572 to upwards of $14,000 annually (see chart for details).

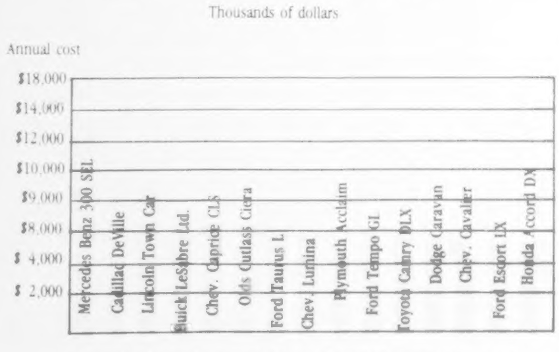
At the low end of the spectrum are the Honda Accord, Ford Escort, and Chevrolet Cavalier—all in the $5,600 per year range. The highest overall costs, as might be expected, are for the big luxury models, headed by the Mercedes Benz 300 SEL which would cost an estimated $14,284 per year to own and operate.

The low overall Honda Accord cost is in large part due to its high resale value and hence low average fixed costs. The Dodge Caravan and Chevrolet Caprice also have relatively low fixed costs. Ditto the Lincoln Town Car, the Chevrolet Lumina, and the Ford Tempo.

Such relatively low fixed costs (reflecting good trade-in values) is of prime concern to fleet managers. It's for this reason, says Runzheimer, that "professional fleet managers tend to stick to the tried and true. Their philosophy is that a popular new car in the 1990 model year will be a popular used car in the 1993 or 1994 model year."

Meantime, for those buyers who prefer to concentrate on operating costs, the best buys would be the Ford Escort, the Chevrolet Cavalier and the Toyota Camry DLX (all with operating costs in the $1,500-1,550 per year range). On the other hand, operating rates aren't terribly much more for the big luxury models where these costs run only in the $2,100-2,300 per year range.

1990-model fleet car costs



Source: Runzheimer International. Assumes 36-month/60,000 mile retention cycle

CURRENT PRICES

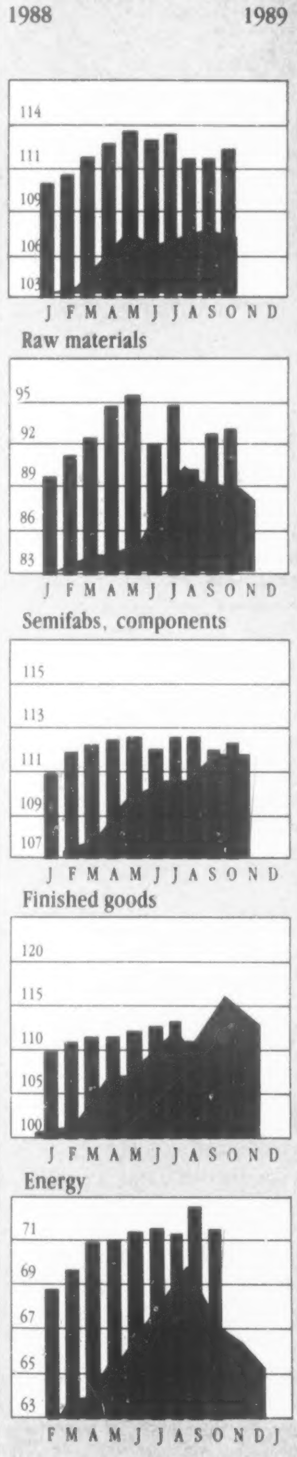
Producer tags mark modest rise

The past year has ended on a relatively optimistic note—with again only a very modest rise in industrial producer prices (as measured by Uncle Sam's Bureau of Labor Statistics).

Over the past few months, for example this bellwether yardstick (a good approximation of what PMs pay for their average purchase mix) has advanced at less than a 1% annual rate. While much of this can be traced back to a peaking out in the energy sphere, other key areas

Industrial prices

(Index: 1982 = 100)



Source: Bureau of Labor Statistics

have also shown signs of flattening out.

This is especially true in the raw material sector. Thus, all of the big nonferrous metals (aluminum, copper, zinc, lead and nickel) are below their levels of a few months back. And now others—including molybdenum, other ferroalloys, and cadmium have joined the downtrend. So have precious metals, with the one exception of rhodium where shortages have helped push tabs up.

True, steel prices show no major weakness. But this is only because government figures fail to pick up all of the discounting in this sector. On a transaction basis these quotes are probably down about 4% from early 1989 peaks.

Nor is this softer trend only applicable to carbon steel. Bigger stainless discounts are also becoming available (see PW Predicts section).

Petrochemicals remain on the shaky side, too. Ditto, plastic resins where overcapacity is becoming an increasingly powerful drag on prices. Sign of the times here: plastic tags are now running close to 10% under a year ago.

Other areas of current weakness would also have to include building materials (because of a lull in construction activity) and paper. On the latter score, most fine papers are off from earlier highs—and linerboard (the key raw material for corrugated) has turned a bit easy in recent months.

Capital goods, on the other hand, continue to inch ahead. But even here the increases at annual rate could hardly be described as earthshaking.

More important, this overall non-inflationary pattern is expected to spill over into the new year. Aiding this trend along will be relatively flat crude oil tags as OPEC continues to have trouble curtailing excess output by its members.

All of this is not to imply that the current lull in producer tags will continue indefinitely. But given the near-term business outlook, it's hard to see those bellwether prices advancing by more than a 2-3% annual rate over the first quarter of the year.

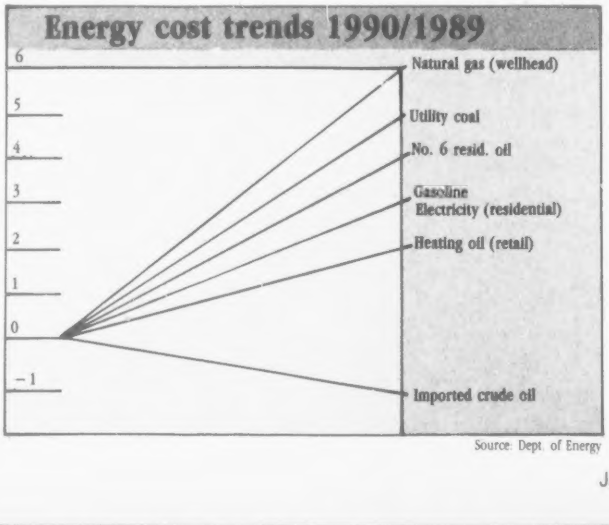
1990 energy costs cool

It's beginning to look like a pretty good 1990 on the energy cost front. Most key fuels are expected to show relatively modest advances over the new year—a big improvement over the past 12 months when such key products as gasoline and residual oil advanced 9% and 24%, respectively.

Behind the hold-the-line optimism: 1) Expectations that crude oil will hold around the current $17.50/barrel level and 2) demand gains will be quite modest—only 1.7% for energy as a whole and an even smaller 0.9% for oil usage.

That's what Department of Energy analysts are predicting these days—with actual product-by-product changes expected to shape up something along these lines:

- **Gasoline**: the overall 1990 price here is expected to rise 3¢/gallon (averaging out at only $1.09/gallon—actually a decrease in inflation-adjusted terms). Some of the boost will be due to the lagged adjustment of gasoline margins to increases in 1989 crude tags. The rest will be the result of rising state and local taxes.
- **Heating oil**: tags should increase about 2¢/gallon (to an average of 88¢/gallon). This primarily reflects the projected difference of 5¢/gallon between the unseasonably low prices of early 1989 and the more normal levels expected over the next few months.
- **Residual oil**: the big retail run-up (to near $17/barrel currently) is about over. True, there could be a 1Q 1990 rise to above $17.30. But for the year as a whole, look for about a 4% overall advance.
- **Natural gas**: wellhead quotes should moderately exceed the general inflation level as supplies get somewhat tighter. But flat oil tags should cap any really large increase. Best bet: a wellhead quote of $2.08/mcf by the end of 1990—up 7% from current levels.
- **Electricity**: residential rates will advance about 4% over the next four quarters. Holding increases down will be 1) fossil fuel cost rises and 2) relatively flat capital outlays. The average rate for the year: 7.88¢/Kwh.



Source: Dept. of Energy

PROCUREMENT STATUS REPORT

1990 smoothly follows 1989

The new year is beginning where the old one left off—with most purchasing managers still talking in terms of relatively problem-free procurement through the foreseeable future.

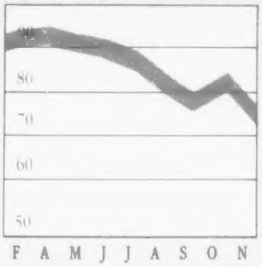
The now-pervasive buyers' market is perhaps best typified by improved vendor performance. Specifically, for seven straight months faster deliveries have outnumbered slowdowns.

Equally significant, the gap between the faster and slower categories is now quite large. Thus, the National Association of Purchasing Management's Business Survey Committee "vendor performance" index, which measures the gap (with any reading below the neutral 50 mark representing a speedup), has dropped to its lowest level since the recession days of 1982.

Another positive sign for buyers: the continuing decline in PMs facing price increases. As of the latest re-

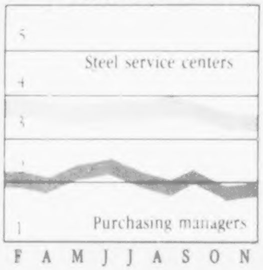
Steel

Operating rates



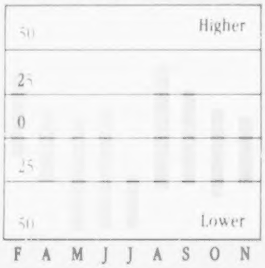
Inventories

(Months supply on hand)

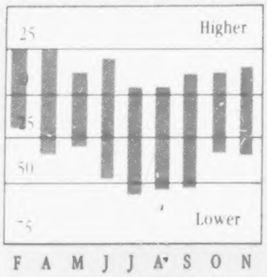


Demand (STEEL SERVICE CENTERS)

(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

port, only 5% of NAPM respondents say they were socked with boosts—far less than the 20% noting declines. This 20% figure, incidentally, represents one of the highest such readings since the index was first tabulated.

Again this is not a one-shot affair. The NAPM price index that measures inflationary pressures has been under the neutral 50 mark for six straight months—nearly as long as the earlier-noted vendor performance index.

Inventories offer still further evidence of a no-sweat situation. More to the point, those NAPM members retrenching have been outnumbering those adding to stocks for 11 straight months. Obviously this can't be due to business retrenchment—since industrial production has actually risen over this period. The only conclusion is there's less need to stock up because of the ready availability of almost all goods.

That's not to say that some PM might not experience a few temporary setbacks in some of the above-mentioned procurement areas. Seasonal patterns, for example, suggest delivery slowdowns are most prevalent in March; price hikes most common in April, and inventory accumulation most likely in February.

But because such developments will be seasonal, they should not be taken too seriously. Put another way, any setbacks in these areas will, in all probability, be only temporary.

Import prices

(compared to domestic)

Steel buyers
ABOVE 54%
SAME 14%
SLIGHTLY BELOW 32%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 4%
SAME 79%
5-10% BELOW 17%
10-20% BELOW 0%
OVER 20% BELOW 0%

STEEL SCENE

Steel prices stay soft

Price softness in steel is likely to persist through the new year.

So say both steel distributors and most analysts who follow this bellwether industry. Behind their optimistic price projections (optimistic at least from the purchasing point of view) is a combination of falling shipments and relatively low mill operating rates.

The latest Steel Service Center Institute (SSCI) survey, for example, finds 44% of the respondents expecting price declines over the next six months. contrast that to last January when only 11% saw lower quotes ahead.

The vast majority of these service centers say declines will be quite modest (in the 2-5% range). Nevertheless, it does suggest that buyers are once more in the driver's seat.

This certainly seems to be the case in stainless where 1) all nickel and chrome surcharges have been removed, and 2) producers have reportedly increased discounts on many product lines.

Adding to easiness in stainless is the fact that 43% of the SSCI respondents report that imported metal is available at under comparable domestic levels. And 14% say the price break is in the relatively significant 11-20% range.

Buyers, too, note a rise in import competition. The latest NAPM steel report, for example, finds 32% saying that overseas steel is cheaper (albeit only slightly so). That's up from the 20% reading of just one month earlier—and another indication of growing competition.

Meantime, in carbon steel, mill discounts on sheet (generally in the $35-75/ton range) are said to be widely available. Carbon strip, too, is selling under list—with discounts here said to be in the neighborhood of 20%.

The WEFA Group, which monitors overall steel prices, confirms all of this softness—with average transaction prices now estimated to be about 35% under 1989 peaks. The Bala Cynwyd, PA-based econometric consulting firm also sees this soft pattern persisting until 1991 when a small 3% price rise is anticipated.

As suggested above, the weakness in large part stems from a demand slowdown. One top steel analyst, Elizabeth Bossong (formerly USX's manager of economic research) sees shipments off 8% in 1990 (to about 77.5 million tons).

Also contributing to lower shipments: continuing inventory drawdowns—with users as a whole expecting to shave about one million tons off of their holding over the new year. And that's on top of the near 3-million-ton reduction recorded over the past 12 months.

Products being hardest hit by the inventory slashing include such commodity items as rebar and hot rolled carbon sheet. Also affected are stainless and alloy lines, where erratic price movements are causing disruptions to orders.

The likelihood of more inventory paring is also suggested in the latest SSCI survey. Specifically, 51% of the respondents still rate their stocks as being too high—a percentage that has remained virtually unchanged for three straight months. Contrast that to the 2% who feel inventories are too low—and further near-term reductions appear almost certain.

The situation here is summed up by SSCI president Andrew G. Sharkey who feels "tight inventory management will be critical for service centers as we enter 1990, given the likelihood of continued price volatility."

This month's breakdown

Index: 1982 = 100

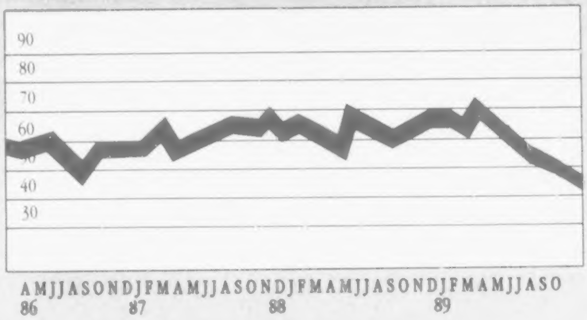
	Latest level (Oct.)	% change from: Month ago	Year ago
Bearings	125.5	0	6.2
Bolts, nuts, etc	114.5	1.3	6.4
Chemicals, inorganic	110.4	0.5	7.4
Chemicals, organic	112.2	−0.5	−1.5
Concrete products	111.5	0.1	1.5
Corrugated cartons	112.5	−0.1	1.0
Cutting tools, small	111.8	−0.2	3.5
Electric lamps (bulbs)	125.9	0.8	2.7
Electronic components	119.6	0	1.1
Fans and blowers	120.0	0.1	5.4
Foundry and forge products	115.2	−0.1	3.8
Fuel oil (residual)	48.2	3.0	24.2
Furniture, commercial	130.2	0.1	3.6
Gasoline	65.3	0.6	16.4
Glass, flat	109.2	−0.6	−1.0
Glass containers	115.9	−0.3	3.2
Gypsum products	110.2	1.0	−3.0
Hand tools	129.3	0.5	6.1
Hand tools, power driven	117.0	0	4.6
Industrial furnaces	125.2	0	2.9
Integrating and measuring instruments	122.2	1.5	6.3
Internal combustion engines	116.4	0.3	3.6
Lubricating oil	112.1	0.1	4.1
Lumber millwork	128.1	0.1	3.9
Material handling equipment	113.0	0.4	4.0
Metal containers	115.0	1.8	3.5
Metal mill shapes (nonferrous)	136.7	−0.1	0.8
Metal tanks	111.8	0.4	5.3
Motors and generators	129.9	0.1	4.2
Motor trucks	136.1	10.1	4.2
Office and store equipment	109.5	−0.3	1.6
Paperboard	140.0	−0.2	2.6
Paper boxes and shipping containers	131.0	−0.1	4.1
Paper office supplies	121.9	−0.3	3.9
Paint	120.6	−0.2	5.8
Plastic resins	126.9	−1.8	−9.2
Precision measuring tools	125.3	0	3.2
Pumps and compressors	116.4	0.4	5.4
Refractories	120.1	0.2	4.3
Rubber belts and belting	118.0	1.1	8.6
Scales and balances	106.7	0	0
Steel products	114.5	0.3	2.0
Switchgear	119.4	0.2	4.0
Textiles, synthetic fibers	106.7	0.1	7.3
Textiles, gray fabrics	116.0	0.4	1.6
Tires and tubes	97.3	−0.1	2.9
Transformers and power regulators	119.1	0.3	9.2
Welding equipment	122.6	0.1	2.9
Wire and cable	149.1	1.8	11.9

NAPM procurement trends

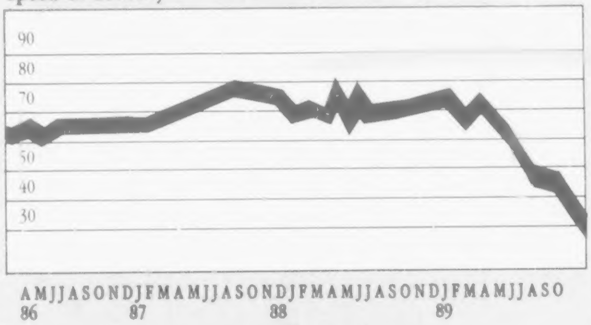
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

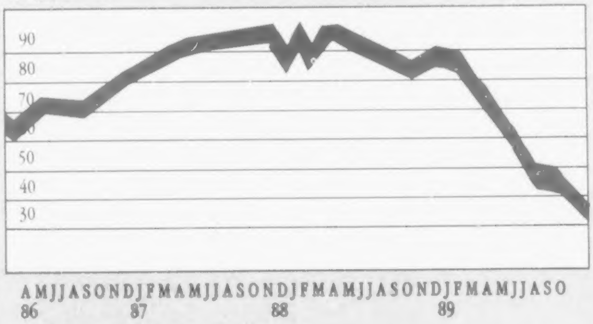
Inventories



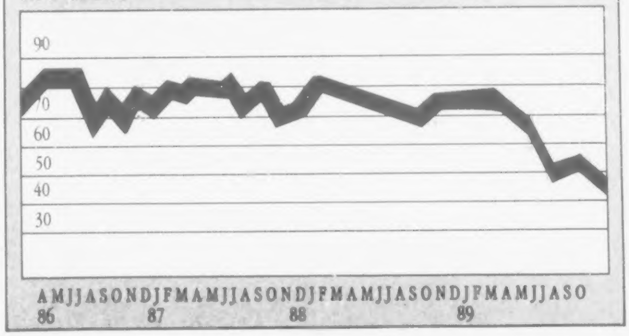
Speed of delivery



Prices



New orders

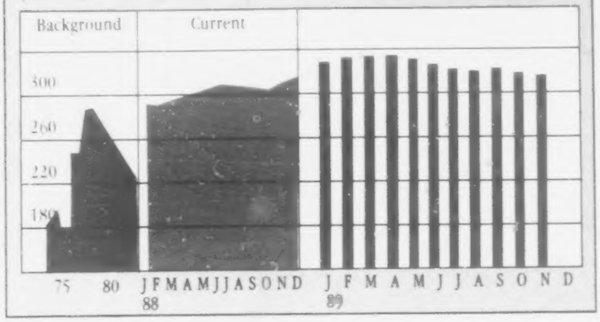


BUSINESS DATATRAK

Raw material price barometer

(Index 1967 = 100)

Last month 314.8
Month before 325.7
Year ago 309.7



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	357.00	367.00	367.00
Steel, structural shapes, Pitts., cwt	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt, merchant quality	18.70	18.70	16.50
Steel, bars, Pitts., cwt	18.70	18.70	16.50
Steel, bars, C.R., Pitts., cwt	23.95	23.95	19.45
Steel, plates, Pitts., cwt	23.25	23.25	23.25
Steel, plates, H.R., Pitts., cwt	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt	29.65	29.65	28.15
Steel, strip, C.R., Chi., cwt	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	760	770	1.075
Antimony, N.Y., dealer, lb	81	.94	.95
Beryllium-copper, cost ingot, lb	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb	1.78	1.84	2.18
Brass, yellow, [sheet], lb	1.74	1.80	2.14
Cadmium, N.Y., dealer, lb	5.15	5.50	7.40
Copper, electrolytic, wire bars, refd., lb	1.15	1.21	1.55
Copper sheet, over 24 in., lb	1.87	1.93	2.27
Lead, common, N.Y., lb	.38	41	40
Magnesium, pig ingot, [99.8%], lb	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl	290.00	270.00	275.00
Molybdenum, oxide, dealer, lb	2.51	2.94	3.41
Nickel, cathode, dealer, lb	4.10	4.65	6.30
Platinum, dealer, oz	504.00	500.00	596.00
Silver, N.Y., oz	5.70	5.32	6.18
Tin, N.Y., dealer, lb	3.08	3.39	3.42
Zinc, Prime West, East St. Louis, lb	73	.77	.75
Zinc, die casting alloy, No. 3, lb	810	.855	835
PAPER			
Uncoated book #3 offset, ton	940.00	960.00	965.00
Watermarked bond, ton	1095.00	1090.00	1080.00
Gummed sealing tape, carton	19.10	18.87	17.87
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	835.00	780.00	730.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	410.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd	282	286	280
Cotton drill, 1.85, 59", 68x49, N.Y., yd	1.24	1.24	1.18
Cotton middling, 1", N.Y., lb	614	693	.515
Printcloth, 48", 80x80, N.Y., spot, yd	50	50	50
Army duck, 37", 13 oz., yd	1.40	1.40	1.50
Blended printcloth, 64", 78x54, yd	76	77	70
20s combed yarns	1.94	1.94	1.80
Wool 64s, Staple, lb	3.50	3.50	4.50

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.42	.42	.36
Ammonia, anhydrous, tankcars, Gulf Coast, ton	88.00	73.00	91.00
Benzene, petroleum, tanks, Houston, gal.	1.51	1.32	1.80
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid [over 25%], tanks, lb	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.106	.106	.106
Glycerine, synthetic, tanks, lb.	845	.845	.760
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	32	.30	.60
Naphthalene, crude, tanks, lb.	16	.16	.16
Phthalic anhydride, tanks, lb.	.40	.40	.35
Polyethylene resin, low density liner film grade (market place), lb.	.350	.350	.515
Polypropylene, homopolymer grade (market price), lb.	.365	.365	.505
Polystyrene, general purpose grade (market price), lb.	475	.485	.590
Polyvinyl chloride, pipe grade (market price), lb.	.335	.335	.440
Soda ash, 58%, light carlots, cwt.	6.15	6,15	6.15
Styrene monomer, 99.6%, tanks, lb.	.350	.335	.470
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	117.50	117.50	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	.95
Xylene tanks, gal.	85	.90	1.30
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	343.56	344.50	334.94
Lumber 2x2 pine, mbf, cl	337.08	329.70	319.18
Plywood, plyform, ¾", msf, cl	605.94	602.21	567.75
Plywood, ⅝", msf, cl	401.83	365.56	382.32
Cement, bulk, ton, tl	62.85	63.34	64.27
Sand, ton, cl	7.03	7.00	7.22
Ready-mix concrete, 3,000 psi/cu. yd.,	47.82	48.09	48.31
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	89.57	89.04	92.28
Reinforcing bars, whse base; per cwt	22.07	22.04	20.85
Asphalt paving AC-20	104.75	105.80	114.39
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	18.03	17.94	N.A.
FUELS			
Crude oil (W. Tex Int Cush), bbl.	20.25	19.90	15.35
Diesel (reseller rack, Chi), gal.	.6025	.6150	.4700
Fuel oil No. 2 (N.Y.), gal.	.6485	.5835	.4835
Fuel oil No. 2 (Gulf spot), gal.	.5945	.5730	.4575
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	21.75	21.50	18.75
Gasoline (prem unlded NY), gal.	.5860	.5900	.5075
Gasoline (reg unlded NY), gal.	.5315	.5150	.4850
Kerosene (reseller rack, Chi), gal.	.6875	.6990	.5180
Propane (Mt. Belvieu, Tex), gal.	.2375	.2100	.2050
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	92.00	93.00	111.00
Steel, No. 1 hvy., dlvd., Chi., ton	94.00	96.00	106.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	.990	1.055	1.230
Copper, No. 2, East, wholesale buy, dlvd., lb.	.920	.975	1.080
Brass, red, East, wholesale buy, dlvd., lb.	.950	1.015	1.190
Brass, yellow, East, wholesale buy, dlvd., lb.	.590	.560	.525
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	.440	.460	.615
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.510	.540	.720
Zinc, old, East, wholesale buy, dlvd., lb.	.30	.30	.24
Lead, clean solids, East, wholesale buy, dlvd., lb.	.24	.24	.27
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	15.00
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	Nom.	Nom.	Nom.
Old white ledger, Chi., ton	110.00	110.00	75.00

[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

$137.5 billion in 1986 to only $60 billion this past year—is coming to an end. But any deterioration is expected to be modest, with only about $10 billion (bringing the total to $70 billion) being added onto the current red ink figure.

On the other hand, some deterioration is inevitable—if only because of the recent strengthening of the dollar. But with inflation remaining low, exports should stay fairly strong. And if the dollar comes down a bit (as expected) this could further strengthen exports and inhibit big import gains.

- **Profits.** Earnings have been weak, but future prospects are not all that gloomy. True, GNP growth will be minimal in early 1990, but unit labor costs are only rising slowly and productivity patterns are improving.

Then, too, Federal Reserve policy is gradually easing, and a pickup in growth is seen during the second half. As such, whatever profit weakness we may have is likely to be limited in both size and duration.

- **Government spending.** Federal outlays on goods (excluding transfer payments) has been rather flat during recent quarters. And this pattern is expected to continue. State and local spending, meantime, continues to rise gradually—and may be encouraged somewhat as interest rates continue to fall.

Defense spending cuts will, of course, eventually materialize if Glasnost continues. But it takes time to cut this kind of spending. In any case, appreciable reduction of the Federal budget deficit is not anticipated over the next year or so.

Nevertheless, the long-term implications of big defense cuts can't be ignored. It's clearly a factor that makes forecasts extending into 1991 and beyond risky.

But Dr. Williams then points out that the vast amount of public money waiting to be spent in the nondefense sector (especially for propping up the infrastructure) will take up much of the slack. He then adds that, with a little luck, we may be looking forward to a ninth straight year of growth a year from now.

Readers view 1990

Purchasing World readers aren't buying all the recent gloom and doom talk. Quite the contrary, they remain surprisingly optimistic about the year just now getting underway.

Judging from their replies to *PW*'s just-completed national survey, the majority are looking forward to somewhat lower inflation rates (though with some second half acceleration), continuing gains in their company's business (again with the second half better than the first), and steady to improving delivery performance.

As a midwest purchasing executive puts it, "We just don't see the imbalances that have precipitated previous business downturns. And while it may be difficult to maintain last year's rate of gain, there's no reason why 1990 should not turn out to be another tolerably good year."

He and others are quick to point out that their procurement task should be a bit easier—what with fewer and more scattered price increases and virtually all procurement items available on demand.

That's not to say, of course, that there won't be problems. Certainly strikes could pose headaches in some areas—and more than a few PMs will have to walk a tightrope on inventories as pressure for lower stock levels continues.

Be that as it may, the basically positive buyer outlook is highlighted by the following specific survey findings:

- **Prices:** Nearly one out of every three queried think they can hold increases for 1990 to 2% or less. And the average advance for all respondents is put at only a moderately higher 3.7%. That compares the 4%-plus estimate a year ago, when these same buyers were asked to forecast the overall 1989 trend.

This improving price picture is also highlighted by the fact that 57% of those responding see 1990 percentage increases lagging those of last year—with 21% dubbing the projected deceleration as "significant." On a less rosy note, one out of three feel there could be some acceleration in the last six months, though most of this latter group say any speedups will be quite modest.

- **Demand:** As suggested earlier, the business upturn is expected to continue. Specifically, some 55% of *PW* respondents expect their own firms to better 1989 performance—nearly twice as many as the 31% who feel some declines are possible over the new year.
- **Inventories:** "Keep 'em lean" still remains the order of the day, despite expectations of a still-rising business curve. It may seem hard to believe, but more than four out of every 10 *PW* respondents plan on further near-term cuts—with another 50% or so hoping to hold the line despite continuing good demand.
- **Availability:** No sweat—a situation which is perhaps best summed up by one Atlanta-based PM who notes that only one of the 1,800 items he buys is currently on allocation.

Also signalling a continuation of ample supplies is the fact that 92% of queried PMs are hard put to name one critical item that will be in short supply over the new year. Almost as impressive are the 89% who expect delivery times to hold or even come in a bit.

Not surprisingly, purchasing professionals hope to take advantage of the bargaining leverage implied by all the above. Their 1990 buying strategies, for example, include such time-tested approaches as 1) more hard-nosed bargaining on transaction prices, on terms of sale, and on price guarantees, 2) further exploration of overseas opportunities, 3) increased attention to value analysis, 4) a continuing move to just-in-time deliveries as part of an overall inventory reduction goal, and 5) increased use of long-term contracts with a few reliable suppliers.

Labor pacts active in '90

Brace for another fairly active year on the labor bargaining front—as some three million workers either reopen or renegotiate major labor contracts over the next 12 months.

This is slightly under the 3.4 million workers who inked new pacts this past year, but with unions showing more signs of flexing their muscles, 1990 could see significant work stoppages and/or pay hikes.

It's certain, squabbling over who pays medical care costs (business or workers) is likely to cause an increasing number of problems. Indeed, this trend is already quite apparent. Thus, the Federal Mediation and Conciliation Service estimates that 60% of the strikes it recently has been mediating involve health benefit issues.

One sure thing, wage boosts are likely to be fairly high on the list of union demands. And while increases will most certainly vary industry by industry, the average increase over the new year is expected to run somewhat above the 3%-plus life-of-the-contract average noted for just-ended 1989.

There should also be a continuation of the "front-loading" (larger than average increases in the first contract year of a multi-year pact). Last year, for example, such front-loading was noted in 54% of all big agreements—nearly double the 33% which carried back-loading provisions.

Cost-of-living adjustments are also expected to play a role in new settlements. As of latest report, some 40% of all workers under major agreements had these so-called COLA clauses. And preliminary indication suggest this percentage will hold over the new year.

Meantime, workers in private industry, where contracts are slated for renegotiation in 1990 are about equally divided between non-manufacturing (51%) and manufacturing (49%). Some of the specifics:

- **non-manufacturing:** the largest numbers of workers are in construction (409,000), wholesale and retail trade, primarily food stores (179,000), and trucking and warehousing (116,000).
- **manufacturing:** the largest numbers are in transportation equipment, primarily automobile manufacturing (595,000) and apparel (97,000).

These contracts are pretty much spread out over the year (see accompanying table). But of special importance to purchasing executives are these key expirations and reopenings: petroleum refining (January), apparel and textiles (February), construction (March through June), parcel delivery (July) and autos (September). On a rosier note, however, very little in the way of big new mining and metal negotiations looms on the near-term horizon.

The 1990 Wage Calendar

Source: Bureau of Labor Statistics

Month	Principal industries	Agreement expirations and/or scheduled wage reopenings	
		Number of pacts	Workers covered
January	Petroleum refining, local government	38	122,000
February	Apparel and other textile products	30	144,000
March	Health services construction	49	137,000
April	Construction	48	153,000
May	Construction	74	224,000
June	State and local government, construction	215	679,000
July	Parcel delivery	35	221,000
August	Food stores	41	206,000
September	Automobiles, apparel and state and local government	70	894,000
October	Food stores	25	68,000
November	Transportation equipment	20	60,000
December	Local government	35	117,000
Total	(for those covering 1,000 or more workers)	678	3,008,000

Industrial products take low road

The relatively low inflation scenario anticipated for the next few years should encompass most industrial products.

A new Data Resources Inc. rundown (prepared especially for ***Purchasing World*** readers tells the story. Raw materials (metals, chemicals, plastics, etc.) will be softest, at least during the initial stages of the 1990-92 forecast period. But even the majority of more highly fabricated lines are expected to sport limited increases throughout the 3-year span (see accompanying chart for details).

The current lull to a large extent reflects somewhat softer demand. But even when demand picks up later in 1991, the projected price boosts should remain within tolerable bounds.

One reason: the basically restrained wage cost advance anticipated by DRI analysts. Over the current year, for example, a 5.4% increase in annual compensation is expected to be partially offset by a near-1% increase in overall productivity. And in 1991, an improving demand picture should raise the efficiency offset to near 2%—thereby holding the estimated unit labor cost increase that year to just over 3.5%.

Couple the above with ample capacity, continuing foreign competition, and the absence of any inflationary psychology, and here's how specific segments of the industrial purchasing price mix seem to be shaping up over the 1990-92 period.

- **Energy:** Only a slow price rise is anticipated, as OPEC and non-OPEC producers steadily increase output. But the oil cartel manages only shaky alliances and is therefore unable to have a major impact on global crude quotes. Thus, the refiner's average acquisition price for crude (composite of foreign and domestic) rises only 0.2% in 1990 and 5.2% in 1991—a welcome change after the big 18.7% increase of 1989.

Industrial prices into 1992
(First quarter comparisons)

Product	**1991**	**1992**
Basic raw materials & energy		
Nonfood, nonfuel for mfg	4.3	6.4
Corrugated containers	2.6	4.5
Refined petroleum products	3.6	5.0
Electric power	2.2	3.1
Metals		
Wire rods, carbon steel	0.2	5.1
Steel sheet, HR carbon	4.5	6.2
Stainless sheet, CR	5.4	5.7
Steel castings, standard malleable	2.6	7.0
Tin	7.1	8.8
Aluminum ingot	3.2	6.6
Copper & brass shapes	3.8	9.4
Titanium mill shapes	2.9	3.2
Component parts		
Fasteners	1.2	0.8
Industrial controls	2.2	5.9
Engine parts, electrical	1.9	4.7
Storage batteries	2.6	4.7
Bearings	2.7	6.5
Motor vehicle parts	1.9	2.3
Semiconductors	1.2	6.2
Construction		
All materials	3.9	5.6
Hardware	2.6	3.6
Metal doors	4.4	5.9
Sheet metal products	-0.3	4.0
Lighting fixtures	3.2	5.4
Insulation materials	3.8	3.7
Machinery		
Metal working machinery	4.2	4.7
Turbines & generators	3.3	7.5
Air conditioning & refrigeration equip.	2.0	3.2
Mining equip	4.5	3.8
Internal combustion engines	4.0	6.1

- **Steel:** Figure on continuing near-term softness. No real price collapse is projected, however, as strong foreign steel markets and VRAs prevent foreign dumping on U.S. markets. The overall increase in mill products for this year is put at only 0.5%—with most of this coming after midyear. Longer term, the projected increases for 1991 and '92 are 4.3% and 5.2%, respectively.
- **Nonferrous metals:** Demand will remain weak for another few quarters, but reductions in production and rising cost pressures should prevent any big downward spiral. For 1990 as a whole, price averages will be lucky to post a fractional 0.4% increase. But a buying pickup after that should give a lift to this volatile segment—with 1991 and 1992 averages rising 6.2% and 7.9%, respectively.
- **Industrial chemicals:** Current easiness is expected to persist well into this year. Upshot: price averages show anemic 0.9% quarterly advances over the next four quarters. But by 1991, improvements in the construction and automotive industries help push up the quarterly average to near 1.5%—with an almost-as-robust 1.4% quarterly average increase anticipated through 1992.
- **Construction products:** Slowly improving building activity will mean gradually rising (but still modest) price increases. Concrete products, for example, are targeted to rise 2.3%, 4.1%, and 4.9% in 1990, '91, and '92, respectively. A similar pattern is noted for gypsum—with advances over these same three years put at 2.1%, 5.0%, and 4.6%.
- **Machinery and equipment:** Relatively low factory operating rates (estimated to drop to 80.6% this year) suggest decelerating demand gains. This, in turn, should keep a lid on price increases. This year's estimated 3.3% advance, for example, will actually be under the 3.6% reading of the past year. Only slightly higher 4.1% and 4.3% hikes are seen for 1991 and 1992, respectively.
- **Electronic components:** Producers will minimize price boost to keep their share of an increasingly competitive market. Shortages of most components are just a memory and users are now being a lot more selective about the products they buy. Conclusion: prices will rise only 1.4% this year (*versus* 1.8% in 1989) before jumping 4.0% in 1991 and 6.9% in 1992. Increases for individual components, however, will vary greatly from industry averages.

Econometric models are 'refreshing'

"The pause that refreshes" describes the near-term business picture being painted by the nation's major econometric forecasting models.

In a nutshell, these mathematically-oriented forecasts (based on hundreds of equations) are calling for a short-lived growth pause (but no recession) to be followed by solid growth toward the end of 1990 and into 1991.

The advances in real GNP and industrial output by 1991, for example, could be approaching the levels of the past year. Not all that bad—considering that 1990 and 1991 will be the eighth and ninth consecutive years of business up-trend.

Also on an upbeat note—these projections (summarized in the table) have been pretty much on the button in the past—primarily because they are able to evaluate all of the interacting business variables that help determine our $4 trillion-plus economy.

Example: A year ago these models (from DRI, the WEFA Group, and Merrill Lynch) put 1989 real GNP growth at around 2.5%—pretty close to the final 3.0% estimate.

And even greater precision is noted in the price sphere—with the final 4.1% increase in the 1989 GNP deflator coming within a whisker of the original 4.2% projection. Similarly, virtually pinpoint accuracy is noted for 1989 consumer prices (4.9% originally projected versus 4.8% at latest count).

So much for history. These same models are also optimistic about holding the price line over the year just now getting underway. The average GNP price deflator advance for 1990 is put fractionally under 1989 levels. And when it comes to finished producer goods prices (of more immediate concern to industrial purchasing managers) the deceleration is a lot more significant—from 5.0% last year to only 2.9% in 1990.

What the models predict

	1989	1990	1991
Real GNP (% change)			
DRI	3.0	1.6	3.2
Wharton	3.0	2.0	2.4
Merrill Lynch	3.0	2.0	N.A.
AVERAGE	3.0	1.9	2.8
Industrial production (% change)			
DRI	3.2	1.0	4.4
Wharton	3.2	1.2	2.8
Merrill Lynch	3.2	1.3	N.A.
AVERAGE	3.2	1.2	3.6
GNP price deflator (% change)			
DRI	4.1	3.7	4.1
Wharton	4.1	4.3	4.2
Merrill Lynch	4.1	4.0	N.A.
AVERAGE	4.1	4.0	4.2
Finished producer prices (% change)			
DRI	5.0	3.3	4.3
Wharton	5.0	2.1	3.0
Merrill Lynch	5.0	3.2	N.A.
AVERAGE	5.0	2.9	3.7
Consumer prices (% change)			
DRI	4.8	4.1	4.6
Wharton	4.8	4.0	4.3
Merrill Lynch	4.8	4.2	N.A.
AVERAGE	4.8	4.1	4.5
Prime interest rate (%)			
DRI	10.9	9.9	11.0
Wharton	10.9	10.0	10.0
Merrill Lynch	10.9	10.3	N.A.
AVERAGE	10.9	10.1	10.5
Unemployment rate (%)			
DRI	5.2	5.4	5.4
Wharton	5.2	5.7	5.6
Merrill Lynch	5.2	5.5	N.A.
AVERAGE	5.2	5.5	5.5

Talks with analysts at all three econometric firms indicate one major reason for this substantial producer price deceleration. This series contains many raw materials and semi-fabricated items—products where prices are expected to remain soft. On the other hand, the GNP price deflator is heavily weighted with services which are expected to continue rising at near record clip.

The price outlook for 1991 isn't all that bad either. True, the finished producer price increase is set to jump by nearly a full percentage point (to 3.7%) by that time. Even so, that would still leave this advance well under last year's. Consumer price advances at that time are also expected to lag 1989 levels.

Forecasts of two other barometers would also seem to bode well for the ecomomy. Interest rate projections, for example, suggest that monetary easing, already underway, will continue into the new year. Specifically the prime rate (as measured by the average of the three models) is put at only 10.1% in 1990—nearly a full percentage point under the average for the year just ended.

Unemployment is the other positive indicator alluded to above. The jobless rate is expected to inch ahead (from 5.2% in 1989 up to 5.4% in 1990), but this can hardly be called a momentous change. More important, it's unlikely to have any significant impact on consumer buying (another key variable projected by these models).

It might also be noted that the new 1990 jobless projection (5.4%) is actually under the 5.8% estimate for 1990, made a year ago. In short, unemployment is likely to pose less of a problem than originally anticipated.

This rosier-than-expected outlook would also seem to apply to prices: a year ago the finished goods producer price forecast for 1990 called for a 4.8% increase—a figure which has now been downgraded to a much more livable 2.9%.

Also on the reassuring side is the fact that there's very little variation among the three models when it comes to most of the indicators being projected. Take 1990 growth—where less than half a percentage point separates the three individual models—and the differential is as small or even smaller for the GNP price deflator, consumer prices, interest rates, and unemployment.

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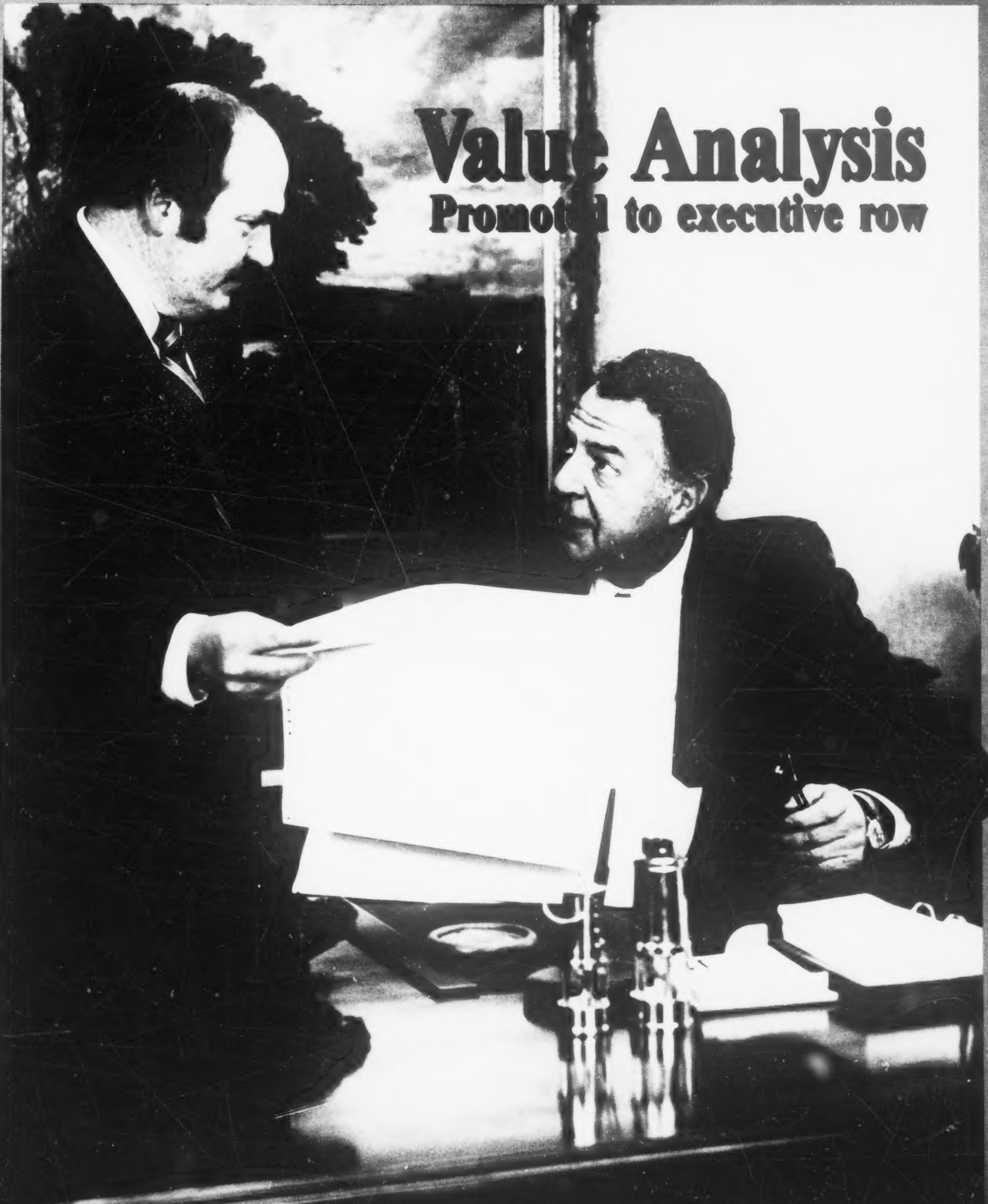

Value Analysis
Promoted to executive row

CONTENTS

February 1990, Vol. 34, No. 2

COVER STORY

32 Value analysis evolves into value management
At Joy Technologies, the concept of value management has grown and expanded. Four case histories of other companies also show the value of this streamlining, cost-saving concept.

FEATURES

24 No respect
In an exclusive PurchasingWorld survey, we find our readers still feel like Rodney Dangerfield—and they give examples.

26 NAPM predicts small price increases
The National Association of Purchasing Management's business committee is expecting very manageable price increases in the current year.

Our cover shows Tom King (above) and his boss, Marc Wray, CEO of Joy Technologies, discussing how Value Analysis has become Value Management. Page 32

PMs responding to our recent survey say they get no respect at their companies. Page 24

FEATURES

28 1990: Another year of growth
According to the U. S. government's industrial outlook for the year, the economy will start slowly.

40 Purchasing software: How to make a start
American Tech's CEO Tim McEneny offers his point of view on how to select software for purchasing.

41 1990: The database decade
Software columnist Garry Hersman discusses the importance of software in managing your business.

42 Guide to software solutions

57 Purchasing can hedge its bets
Financial authority Ronald Leiffer provides a how-to for PMs who want to evade the effects of inflation.

DEPARTMENTS

3 **PW Pointers**
Motorola's vendors...NOMDA's office equipment museum...

4 **Editorial**
We have to learn from our mistakes so we won't repeat them.

6 **Letters**
Voice mail...little guys get a chance...Europe in 1992

8 **Inside Purchasing**
Dr. Ken Killen answers questions about monitoring suppliers...cash discounts and advises a newcomer to the PM ranks.

11 **PW Predicts**
The industrial price outlook for 1990...copper prices, construction materials update...developments in paper supplies.

17 **Business Datatrak**
Key economic trends—machine tool orders, housing permits, and factory overtime...the steel scene explored...industrial price outlook...reports on productivity and fleet cars

61 **Buying for the Office—Group 4 fax**
What is Group 4 fax, how does it work, and what benefits does it offer?

66 **Transportation**
Is your carrier insured?

67 **Products**

70 **Literature**

72 **Buyers' Lit Digest**

73 **Classifieds**

75 **Ad index**

76 **Purchasing and the law**
Who owns the Wright chair?

PurchasingWorld

PW POINTERS

Venders to Motorola must take classes

Selling to Motorola Inc. has several prerequisites including taking three courses before you can become a supplier, says Harry Woodworth, materials operations manager, at the firm's Boynton Beach, FL, pager manufacturing operation. He told a procurement conference at the University of San Diego put together by Prof. David Burt, that the courses include manufacturing cycle management, design for manufacturing, and statistical process control. The classes are conducted by Motorola. He's found that it is a profitable exercise in reducing cycle times when you get everyone involved and knowledgeable in those areas.

NOMDA opens office equipment museum

The National Office Machine Dealers Assn. (NOMDA) has moved to preserve a bit of business memorabilia; it has opened a museum dedicated to office equipment. It offers authentic offices from four different periods—the 1890s, the 1920s, the 1950s, and the office of today. A portion of the display area is also dedicated to several manufacturers who have made significant contributions to the development of the industry. The unique facility is located in Kansas City, MO—the home of the association—and will be open to the public during regular business hours. Special tours for school children and other groups can be arranged.

One-day session improves writing skills

Small companies that do not have the time for multi-session training programs can now improve employee writing skills conveniently. International Writing Institute Inc. president, Albert Joseph, now has developed a one-day workshop edition of the "Put It in Writing" program. The course is designed to help professional men and women write more clearly and to organize letters and reports more effectively. Although the course goes into some depth, it is simple enough to permit anyone to teach it. All learning activities are built into the course materials and do not depend on the skill of the instructor, it's claimed. The course activities tailor themselves for each user organization by requiring each participant to learn from his or her own letters or reports. Subjects covered include the principles of clear writing, how to ignore writing taboos, organization, meeting deadlines, and tips for nonsexist writing. *International Writing Institute Inc., Hanna Bldg., 1422 Euclid Ave., Cleveland, OH 44115.*

Coke out to help small, minority vendor

Coca-Cola Enterprises is out to expand its Small, Minority, and Women-Owned Business Vender Development Program because such companies represent a "key link in our supplier base and an invaluable resource." Each CCE Bottling Company is to make personnel available to execute the program. It has created a Corporate Vendor Development Program office which is charged with the responsibility of assuring that full consideration is given to such vendors which have a minimum of one-year established history. It'll also launch an active search to find such vendors.

Radiation hotline for VDT safety

January marked the start of a nationwide hotline service to distribute free information on government and private sector studies concerning radiation dangers. The hotline sponsor wants to accelerate awareness of VDT health hazards, especially in light of IBM's plan to reduce radiation levels in future personal computers. *NoRad Corporation, 1549 11th St., Santa Monica, CA 90401*

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PW PREDICTS

1990 industrial price outlook

All signs point to continued moderation in industrial inflation rates.

The big brake on prices, can, of course, be traced to the slowdown in general business demand. Industrial production, for example, is expected to rise at only about a 1% annual rate over the next few quarters—down significantly from last year's 3% overall advance.

Still-increasing factory capacity also helps explain some of today's hold-the-price-line optimism. New industrial potential is increasing at nearly a 3% annual rate—three times as fast as the projected near-term production increase. Upshot: another 2% or so decline in the overall factory operating rate—into the "buyers' market" 81% range.

In any event, excess supplies have already helped soften tags in a host of key raw materials. These include steel, aluminum, copper, zinc, paper, plastics, a host of chemicals, and selected electronic components.

All of this shows up in *PurchasingWorld's* raw material price barometer. At latest report, these market-sensitive quotes were a sharp 10% under last spring's high.

But supply/demand factors are not the only forces helping to keep a lid on prices. For one, most firms are still implementing cost reduction strategies—including tighter inventory controls and stronger resistance to procurement cost hikes. Their threats to shift to substitutes may also be playing a role here.

Still another inflation suppressant: our relatively good productivity performance. In some industries, like paper, this has led to actual unit labor cost declines. The efficiency gain for all manufacturing isn't all that bad, either, (2.3% over the past 12 months). This, in turn, has kept the rise in overall factory unit labor costs to just a fraction over 2% over the same period.

PW's new import survey also helps explain some of the price restraint. As pointed out elsewhere in this issue—not only have some incoming prices edged lower, but the price saving on imported goods now runs in excess of 10%.

Throw all of the above into the hopper, and it's easy to see why most 1990 price projections are so upbeat. A new one by Wharton Econometrics (the WEFA Group) sees overall industrial tags rising only 1.5% this year—far under the 3.6% and 5.2% advances of 1988 and 1989, respectively.

Equally important, this moderation is pretty much across the board. The specific changes (all of 1990 vs. all of 1989): refined petroleum products (-3.4%), natural gas (-1.7%), textiles and apparel (3.1%), industrial chemicals (-2.1%), plastic resins (-11.3%), lumber (5.9%), paper (0.9%), paperboard (-3.2%), steel (0.7%), nonferrous (-13.0%), fabricated metals (3.6%), and machinery (2.5%).

Even the service-oriented cost-of-living index is targeted for some modest deceleration. WEFA's estimate here: a 3.7% increase (vs. 4.8% for the year just ended).

The latter estimate is backed up by a *Wall Street Journal* survey of 40 top economists. Their average cost-of-living projection: 4.1% for the current year.

To be sure, this is still a long way from the zero inflation rate goal being bandied about in Washington these days. But it's still darn good, considering the fact that 1990 will mark the eighth straight year of economic upturn.

In this section: Reports on copper prices...what's happening with construction materials...latest developments in paper supplies... the electronic equipment market...and specific updates on commodities for buyers.

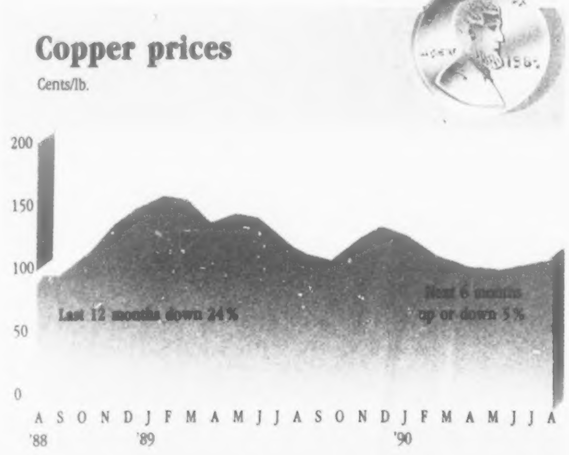
Copper prices level off

CURRENT SITUATION: Prices are leveling off after a slide which has lopped close to 30¢/lb. off the going quote over the past few months. Compared to the beginning of last year, the drop is close to 50¢/lb. Behind the softness: rising production and less-than-sensational demand (up only fractionally on the domestic front in 1989 to 2.2 million metric tons). **On the other hand, the market remains jittery**—primarily because of low global stock levels.

DEMAND: The new year doesn't look all that robust. Domestic consumption should be flat, or even down a bit. Part will be due to slowing or zero growth in the construction and electric/electronic equipment sectors. And use in the auto area looks to be down. **But some of these declines will be blunted by good overseas demand,** which is expected to push global use up by as much as 2%. Meantime, long-term trends are mixed. On the minus side, substitution and new technology will cut usage in the telecommunication and equipment markets. But the metal should benefit from growth in the roofing and automotive electrical areas.

SUPPLY: Gradual improvement is expected to continue—in part because no major supply interruption is anticipated and in part because of increased global capacity. **Potential production, for example, is targeted to rise 5-6% this year**—well above even the most optimistic demand projection. All in all, some 224,000 tons may be coming onstream this year—with additional 140,000 tons and 311,000 tons scheduled for 1991 and 1992, respectively.

PRICE OUTLOOK: Calling the tune in this volatile area has never been easy—and nervousness is likely to continue for another 3-6 months. But after that, it's hard to see how further erosion can be avoided. **The question, however, is how much of an additional decline.** Best bet: quotes in the 80-85¢/lb. range by next fall.



Chrome tags fall from oversupply

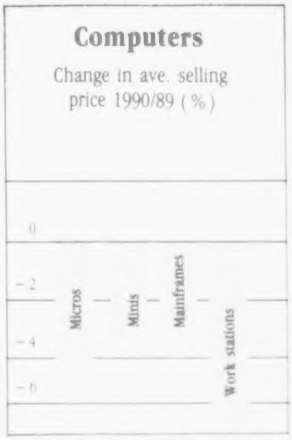
Prices have fallen—with one major overseas producer quoting only 56.5¢/lb.—down from the 65 - 68¢/lb. range of late last year. And the free market prices are a few cents lower than that. This continues a long fall that has halved the $1.10/lb. level prevailing as recently as 1988. Behind the easing: a big supply glut—one that is expected to persist as the market tries to absorb the 200,000 -300,000 tons of new capacity that came onstream in 1989. And a lot more new production potential is scheduled for 1990 and 1991.

Up: building-machinery costs

The near 5% average price increase of this past year won't be repeated as demand for construction machinery slowly begins to taper off. Best bet: a much more modest 3.5% advance. And even this may be on the high side as manufacturers begin to offer some big discounts to help dealers close sales. There are also reports of dealers again offering rebates to customers. Upshot: the real or transaction price increase may only be in the order of 2%.

Computer prices still falling

The downward price drift should continue because of improving productivity and somewhat slower demand gains. New Wharton Econometrics average selling price estimates for 1990: microcomputers ($2,480, down 4.2%), minicomputers ($34,120, down 3.6%), mainframes ($599,100, down 3.2%), business/scientific workstations ($4,150, down 8.0%). And all of this is before adjusting for increased computing power. Also headed down are add-on memories (down 13.7%), and optical disks and mass storage (down 10.2%).



Buyers' market: fertilizer soft

Buyers should be calling most of the signals as markets remain glutted. Sign of the times: ammonia goes for only $86 - 88/ton on the Gulf coast—far under the $125 -128/ton range of a year ago. The situation is equally soft for oversupplied DAP and related phosphates. Prices here, too, have turned weaker—with a fall-off in exports expected to exacerbate the softness in the months and quarters immediately ahead.

Abrasives: cost, quality rise

Rising raw material tags could push prices up 4 -5% this year. But supplies seem

Continued on page 15...

Electronics sales lower

Electronic equipment markets should be taking a breather this year. Indeed, in the case of consumer products, sales totals could well edge a bit lower.

The new forecast, just released by Henderson Ventures, Los Altos, CA, projects an overall U.S. dollar gain of only 2.3%. That's less than half the estimated 1989 advance and even further below 1988's big 8.2% spurt.

The electronics consulting firm sees commercial product lines faring best—thanks to a 4.2% increase in communications equipment. The computer and office sector of the commercial market won't do all that badly, either, as dollar sales here move up another 3.9%.

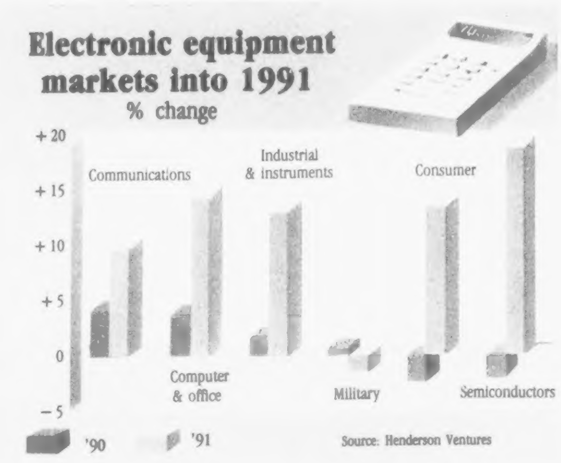
But this latter gain hides some important changes. Specifically, large, centrally controlled computers are being supplanted by decentralized personal computers and workstations. And although mainframes aren't dead, the growth prospects are not exciting.

Also look for major new products, as the much-delayed high-end Sequel disk drive from IBM hits volume production by midyear. IBM also plans to reintroduce its ill-fated workstation—in addition to announcing its new high-end Summit series computers late in the year.

Looking next at military equipment, only a 0.7% gain is seen, as defense cutbacks proliferate. And when it comes to consumer electronics, the sagging auto market should make for about a 2.6% decline.

The study also takes a look at semiconductors—and here, too, the near-term outlook calls for a small 2.2% decline. On the other hand, this has to be considered relatively moderate for this volatile area, as low inventories break the fall.

Henderson also takes a preliminary look at 1991, and here things look to be getting better again. Semiconductor sales should advance 19.3%, with similar gains seen for commercial electronic equipment (13.3%), and consumer products (13.9%).



Source: Henderson Ventures

...continued from page 12

ample—and lead times should remain at current levels (or even narrow a bit). Also, buyers can expect continued improvement in quality as they push for and get vendor certification, more technical services, new premium products (such as ceramic aluminum oxides), and on-time deliveries. On the latter score, more suppliers will be establishing direct computer links with distributors to shorten the order-filling process.

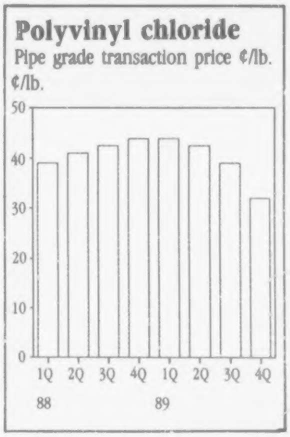
Steel showing price dips

Spotty price weakness is still the order of the day. In recent weeks wide flange beams have dropped $10-20/ton, merchant bars $25/ton, and 1200-series free-machining hot-rolled bars $30/ton. And steelmakers, given forecasts for an overall demand decline this year, are unlikely to propose price increases in this spring's annual negotiations with auto firms. All in all, average steel prices could be off about 2% for the year as a whole.

Weather flattens PVC prices

Prices are continuing to slide—as the bellwether pipe grade drops down as low as 30¢/lb.—off some 3¢/lb. from early fall levels and an even more impressive 14¢/lb. from year-ago readings. Behind the slippage: the severe early winter weather.

True, somewhat warmer temperatures have been reported in recent weeks, but this won't do much to buoy prices as 1) housing (the key end-user market) remains in the doldrums and 2) producer utilization rates move into the low 75% range this year.

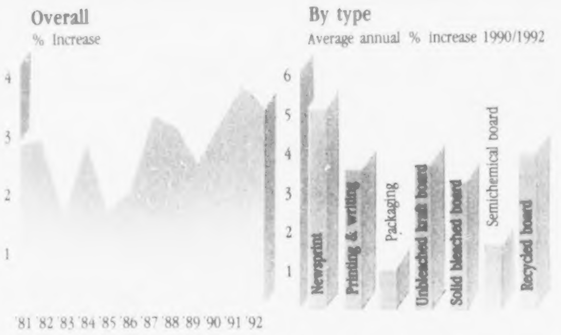


Coal settlement affects prices

Settlement of the long Pittston Coal Group strike could put modest downward pressure on prices. Best bet: about a $1/ton decline on good quality coking coal which sold in December for about $34/ton at the mine. The new pact will also take the pressure off of export tags as overseas buyers again press for reductions.

Truckers post rate hikes

Surging fuel costs (diesel fuel rose 25% in December) are prompting a rash of rate hikes generally running in the 6-8% range. Most of these are being posted by truckload carriers. Truckers that haul smaller shipments (so-called less-than-carload companies) have also raised their rates 5.5%—as part of a previously announced increase.


Paper: More capacity ahead

Paper supplies seem certain

Adequate or even more-than-adequate paper and paperboard supplies over the next few years seem all but certain—assuming producers follow through on big new capital investment plans.

As of now, the industry expects to add more than 8.6 million tons of new capacity over the next three years—the equivalent of a 3.4% average annual growth rate (see accompanying chart). The new figures, just released by the American Paper Institute (API), represent a substantial jump over the 2.4% average advance of the past decade.

An increase of this magnitude should be more than enough to meet demand—given the relatively slow growth GNP pattern now being projected for the economy. (Traditionally, paper demand has tended to track GNP gains with little or no variation.) Indeed, even with the recent wave of inventory paring completed, it's highly unlikely that paper production will advance by any significant percentage this year.

Couple the above with projected capacity increases—and operating rates could fall to their lowest level since 1985—something that should hold price rises (at least on an overall basis) to very modest proportions.

Not surprising, the econometric models are calling for only about a 2-3% rise in paper and allied products for 1990. That's less than half of this past year's 5.7% advance.

And even this doesn't tell the whole story. Linerboard prices may weaken as operating rates fall under the 95% level. Sign of the times here: spotty discounts now being reported in the east.

The industry's cost and profit structures also suggest that a period of relative softness wouldn't be catastrophic. On the cost front, for example, 4% productivity increases have allowed unit labor costs to actually decline in recent years. And on the profit score, the current 7¢/dollar of sales represents an historic high.

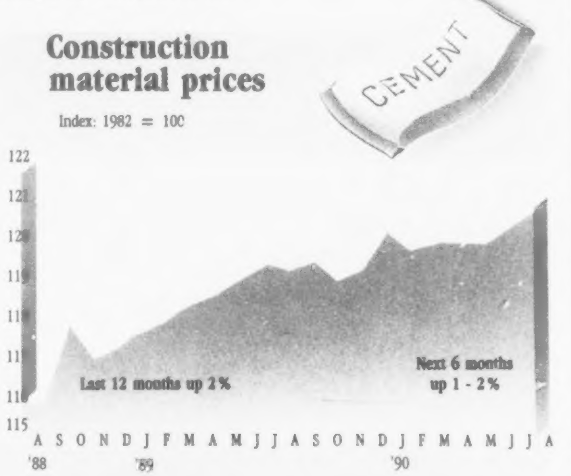
Construction materials stay restrained

CURRENT SITUATION: Price increases remain in the restrained range, with overall averages up only about 2% over the past year. Some items have actually edged down, including reinforced concrete products (−2.9%), gypsum board (−2.7), and bituminous paving (−1.6%). Other basic products (like cement and asphalt roofing) have remained basically unchanged. **About the only items with sizable inflation rates are more highly fabricated lines** like plumbing fixtures (6.7%), heating equipment (5.0%), and lumber (2x4s—5.5%).

DEMAND: Another lackluster year looms as a slight recovery in the housing sector is offset by continuing weakness in commercial and industrial building. Thus structural metal products will be lucky to eke out even small gains. And there could be drops in some areas. Cement could be down about 3%, and lumber usage could be off a similar amount (to only 45.2 billion board feet).

SUPPLY: Availability is generally no problem, as demand continues to disappoint. **This is especially true for metal products**—particularly steel, where mill shipments are expected to be off a few million tons. Ample supplies are also seen for insulation materials, gypsum, paving and asphalt products, and plastic construction items.

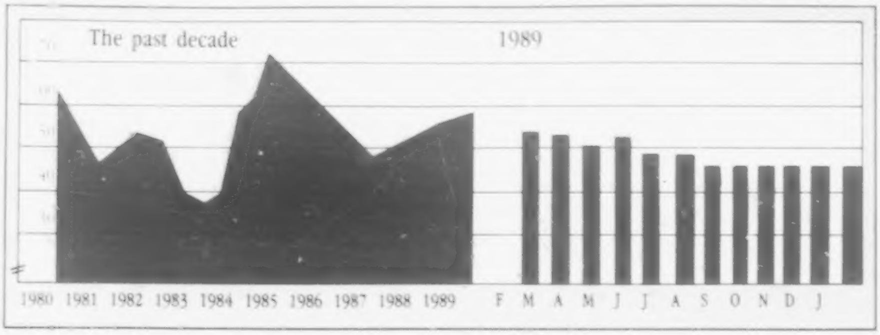
PRICE OUTLOOK: Continued moderation is indicated—with the overall 1990 increase likely to be held to another 2% or so. But averages could be deceiving, for some areas like plastic construction products and structural steel could continue their 1989 declines. Also construction equipment price gains should slow due to sluggish demand and increased price shading and rebates. **But the timber shortage should keep lumber trending up—perhaps by another 5%.**


Construction material prices

BUSINESS DATATRAK

N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Economy's demise greatly exaggerated

The economy is not nearly as soft as some of the recent numbers coming out of Washington would seem to indicate.

For one, the recent lull can, in large part, be traced back to sagging auto sales after rebates ended last fall. In any case, there are already signs that new incentives—including possible price cuts—will again begin to whet consumer appetites.

Sign of the times: a new consumer survey shows 3.3% of queried respondents planning on a new car purchase over the next six months. While hardly earth-shaking, it's actually above the 3.2% reading of one month earlier.

Then, too, the negative one-shot effects of two major strikes, a hurricane, and an earthquake will soon be little more than an unpleasant memory. Other signs suggesting that the now eight-year upturn still has a way to go, should include relatively low inventories and a gradual credit ease.

And don't forget exports. Another gain is seen for 1990—though the contribution to GNP gain will be far less than the 30% figure of 1988 - 89.

All of this can probably be best summed up by the NAPM barometer shown above. The latest reading has inched up to 48.0 (*versus* 46.6 a month earlier).

Taking off on this, Bob Bretz, who masterminds the NAPM survey, says that the current reading is consistent with a continuing GNP growth to near 44 before the economy slips.

Positive signs can also be gleaned from some of the seemingly bearish individual sector barometers. Thus, while machine tool orders are low, they finally seem to be leveling off (see chart).

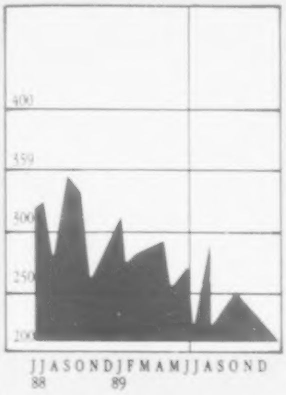
In any case, tool makers are looking ahead with guarded optimism. For one, there has been no rash of order cancellations indicating that companies are suddenly curtailing factory modernization and expansion. Then too, the industry is counting on competitive pressures from overseas producers to force more spending by U.S. firms.

Housing (see chart) is another area that might be ready to bottom out. The latest trend in permits (a forerunner of actual starts) would certainly seem to indicate as much.

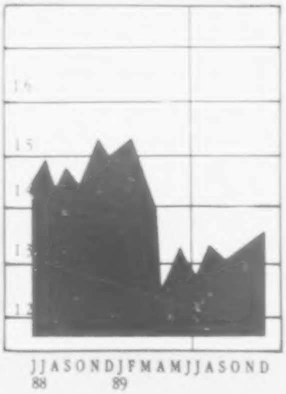
Also supporting the belief that the worst is over in housing are 1) the recent pickup in sales of new homes and 2) the slow decline in mortgage rates. Upshot: by the third quarter of the year, starts should again be approaching the 1.40 million unit annual rate—a fair-sized

Leading indicators

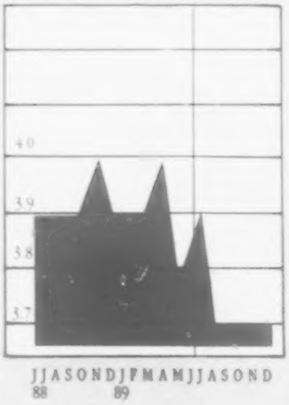
Machine tool orders



Housing permits



Factory overtime



improvement over the 1.32 million level prevailing in late 1989.

Employment statistics aren't all that bad, either. True, overtime is down from last year (see chart). But the drop has not been precipitous—indicating that manufacturers are not about to throw in the towel.

Then, too, unemployment rates are not expected to rise very much. by the third quarter, for example, they could inch up to, say, 5.6%. That's not all that much above the 5.3% rate of the past few months.

This, in turn, should ease the fears of consumers. In fact, real consumption outlays this year are expected to rise by a respectable 2.5%—about the same amount estimated for the year just ended.

Fleet cars toe price line

Fleet car administrators are betting that they can hold the price line on 1990-model acquisitions.

A new survey by the National Association of Fleet Administrators (NAFA) suggests the average passenger car will cost them $12,854. That's up only a minuscule 0.4% from last year's typical tab—and far less than indicated by new show-room sticker prices.

Other key findings of the study which involves 123,000 U.S. and Canadian vehicles:

- **Car-van truck mix:** Passenger vehicles will account for only 63% of total units acquired (down substantially from last year's 73% figure). Bigger portions will go for vans (20% *versus* 13% last year) and light-duty trucks (17% *versus* 14% in 1989).
- **Domestic-import mix:** Overseas models come to only 1%—compared to General Motors (39%), Ford (31%), and Chrysler (29%).
- **Buy versus lease:** For 1990, some 6% of the fleets who previously purchased now plan to switch to leasing—while only 3% will go the other way (from lease to buy).
- **Car size:** Most of the 5% of respondents who plan on changes say they will move up to mid-size vehicles from compacts—the opposite of last year's trend.
- **Buying determinants:** Initial cost is most important—followed by suitability for job, repair record, economy of operation, and depreciation/resale value.

One big plus for automakers: overall unit volume will be going up—despite the general business slowdown. Specifically, the 20% who plan to increase the number of vehicles in their fleets is more than three times the small 6% who plan on some retrenchment.

CURRENT PRICES

Little industrial price change

Industrial prices are still basically marking time.

To be sure, there have been some recent gyrations—particularly in the volatile energy sphere. Specifically, a record-cold December made for some big hikes which are only now beginning to fall back to normal. Biggest up and down moves have been recorded in home heating and diesel fuel.

Elsewhere in the energy sector, coking coal could be in for some modest declines following settlement of the big Pittston strike. Natural gas and electric power, however, remain relatively stable.

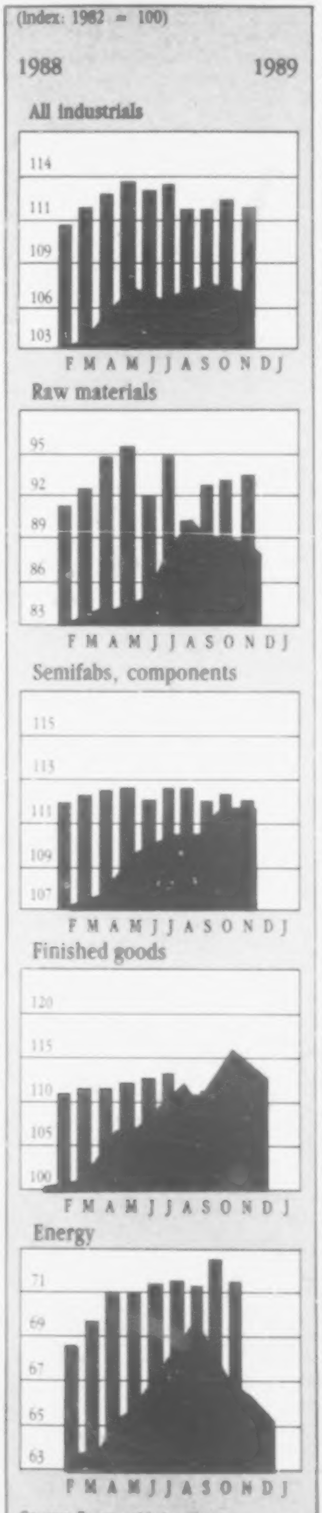
More important, the prognosis is for this mostly flat overall price pattern to persist—as the world remains afloat in a sea of oil. In any case, most signs suggest that imported crude oil will remain in the $17-18/barrel range—thereby helping to keep a lid on any big new energy price advances.

The organic chemical area also continues relatively soft, but this is being offset by some modest strength in inorganics which, at latest report, were running 7% ahead of year-ago levels.

A similar mixed picture is noted for plastic resins. Polyethylene has firmed fractionally following the recent explosion at a key production facility. But this is being offset by persistent easiness (though with only very modest additional price attrition) in polypropylene, polystyrene, polyvinyl chloride, and ARS resins.

A much more across-the-board easiness is noted in most metals. True, the change in the steel mill product price index has been minimal. But this is because the considerable

Industrial prices



Source: Bureau of Labor Statistics

discounting now going on in this area is seldom picked up in Uncle Sam's list-oriented steel price index.

The same underlying softness is also apparent in most nonferrous metals. Thus, copper, aluminum, and zinc have all been falling—and are now well under month-earlier levels. Only lead, among the major nonferrous metals, seems to be bucking the trend—as recent cold weather firms up battery demand.

Also encouraging are the relatively small increases noted for capital equipment, which, in recent months, has been increasing at a restrained 2-3% annual rate. And this pattern is likely to continue—judging from a new plant and equipment forecast which suggests that these tags will rise by less than 2% over the current year.

Factor in offsets

Don't forget to factor in productivity offsets when evaluating supplier requests for new wage-push price hikes. A 4% pay hike, for example, could easily be wiped out by a similar gain in worker efficiency.

What actual productivity percentage to use then? A lot, of course, depends on the industry in question. Some—like steel—have staged substantial gains in recent years, with the average increase here put at 5.2% annually over the past decade (see accompanying table).

Actually a combination of factors are behind these big steel gains. They include a massive restructuring and modernization program, the shutting of older, inefficient mini-mills, and the widespread diffusion of advanced technology such as continuous casting.

Other industries with significant productivity recoveries over the past decade: primary copper (from 3.8% in the 1970s to 12.9% in the '80s), carburetors and pistons (from −3.9% to 2.9%), alkalies and chlorine (from 0.9% to 7.3%), and inorganic pigments (from −1.4% to 4.6%).

But not all sectors have improved. Machine tools have done little more than mark time over the past 10 years. And a handful of industries have actually continued to report negative productivity gains (including industrial inorganic chemicals, steel foundries, fabricated pipe and fittings, and transformers.

A word of caution, however, on these figures. They can vary significantly from year to year due to cyclical factors—with a poor demand year tending to lower efficiency and vice versa.

Best bet then: use the data for gauging only long-term price pressures—not short-term ones. Also don't blindly accept a big price boost just because the past year happened to show poor productivity gains. The drop could well turn out to be temporary.

Productivity trends over the past year

	Average annual
Lumber mill work	0.3
Metal office furniture	2.8
Paper & paperboard mills	3.4
Corrugated boxes	1.7
Industrial organic chemicals	-0.5
Synthetic fibers	3.5
Paints	3.1
Tires & tubes	5.2
Glass containers	4.6
Steel	5.2
Steel foundries	-0.7
Primary copper	12.9
Primary aluminum	3.4
Metal cans	3.7
Metal stampings	1.5
Valves & pipe fittings	0.6
Machine tools	-0.2
Mining machinery	1.6
Pumps & compressors	1.4
Bearings	0.1
Carburators & pistons	2.9
Transformers	-0.6
Motors & generators	1.9
Electric lamps	4.1
Semiconductors	8.2
Motor vehicles	3.5

Buyers keep cards close

Buyers are playing their procurement cards close to the vest—in part because of business uncertainties and in part because most products are available for the asking.

The latest National Association of Purchasing Management (NAPM) Business Survey Committee Report, for example, finds 57% of the respondents are committing for production materials 30 days or less in advance. That's up from 53% the previous month. And at the other end of the spectrum, only 3% now buy these items six months or more in advance (*versus* 5% a month earlier).

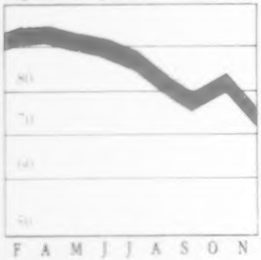
A similar picture is noted on maintenance, repair and operating (MRO) items. Specifically, 90% now buy within 30 days, *versus* 85% some 30 days earlier. That's the biggest number here since May, 1986.

Also indicative that buyers are in the driver's seat: more people reported faster rather than slower vendor deliveries for the eighth straight month. Upshot: the NAPM vendor delivery index (where any reading under 50 represents a speedup) is now at its lowest level in nearly eight years.

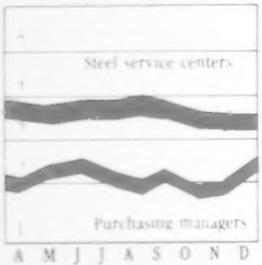
As might be expected, all the above is resulting in continuing inventory retrenchment. That's been the case for 12 straight months now. True, the paring seems to be less across-the-board now, but that's probably because more and more PMs are

Steel

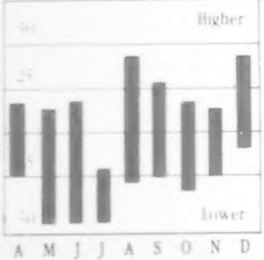
Operating rates



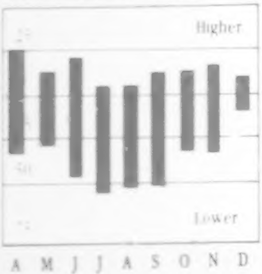
Inventories
(Months supply on hand)



Demand (STEEL SERVICE CENTERS)
(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

approaching rock-bottom stock levels.

Still one more positive sign: the NAPM price index (again with 50 as a neutral point) dropped to 41.9—the lowest figure in nearly five years. Commenting on this, NAPM committee chairman Bob Bretz sees this as an extremely favorable sign—adding that the items reported as being lower in price (27) is virtually double the 14 that are still in rising trend.

That's not to say, of course, that there aren't some problems. Witness the fact that the NAPM short-supply list has increased to 13 items—from 10 last month.

But this should soon be reversed. Thus, more than half the items on the list should be coming off by late spring and summer, as demand gains decelerate and new capacity continues to come onstream. For all manufacturing this increased production potential is now put at near 3% a year.

STEEL SCENE

Steel demand could improve

Near-term steel demand may be in for a modest improvement.

One sign to this effect: some 13% of buyers responding to the latest NAPM Steel survey expect to increase their purchases of the metal over the next three months. To be sure, that's similar to another 13% who feel further declines may be in order. But it's the first time since last March that negative estimates have not predominated.

The picture seems even brighter on the service center front. Specifically, 41% of distributors responding to the latest Steel Service Center Institute (SSCI) survey think that their incoming orders will increase over the next three months. That's well above the 15% who feel declines may lie ahead. More important [illegible], it reverses the declining trend suggested over each of the preceding three months.

Talks with SSCI executives also reveal a more upbeat attitude. While no one is ready to climb out on a limb and predict shipment gains for 1990, most are now hopeful they can maintain a relatively flat pattern. That's a more optimistic forecast than these same distributors were making as recently as last fall.

SSCI president, Andrew G. Sharkey, is also positive on his group's inventory situation. As he puts it: "Inventory levels are virtually flat. Very little month-to-month movement in inventory levels within product categories is being experienced. Stainless, alloy, and carbon bar products are at healthy levels, particularly compared to the high levels established in the first half of 1989."

Service center responses would certainly seem to back this up. Thus the latest SSCI stock level is put at a 3.35 month's supply—about 4% under the high point of late last summer.

And judging from distributors, they want to bring their holdings down even further. An impressive 59% of respondents say their stocks are too high relative to current shipments. Contrast that to the only 2% who feel they're too low.

Steel buyers are generally of the same opinion when it comes to inventories. As of now, their holdings come to only a two month supply. And again, the goal is to bring them down further—with 57% contemplating decreases over the next six months (*versus* only 4% looking for an increase).

This likely falloff in user inventories is further confirmed by a new Wharton Econometrics report. It shows steel stocks dropping 0.8 million tons in 1990, on top of the 2.6 million ton reduction estimated for the year now ended.

Part of this inventory retrenchment is, of course, due to business uncertainties. But an equally important role may be traceable to ready availability and speedy deliveries. Indeed, the only product line mentioned by more than one buyer as possibly being tight in early 1990 is coated sheet.

Import prices

(compared to domestic)

Steel buyers
ABOVE 48%
SAME 30%
SLIGHTLY BELOW 22%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 4%
SAME 76%
5-10% BELOW 20%
10-20% BELOW 0%
OVER 20% BELOW 0%

Put another way, four out of five steel buyers are anticipating a problem-free next six months—a big improvement over last March when only one out of three were this optimistic.

Still another factor behind inventory restraint could be expectations of lower prices in the months and quarters immediately ahead. Some 42% of those responding to the SSCI survey, for example, expect lower replacement costs over the next six months. Lending credence to this projection: This 40%-plus response has been holding steady for four straight months.

Steel spokesmen say they are basing this soft price projection on expectations of a sizable four million ton drop in domestic shipments. This, in turn, will bring down overall industry operating rates to near 80%—low enough to insure continued discounting in many product lines.

This month's breakdown

Index: 1982 = 100

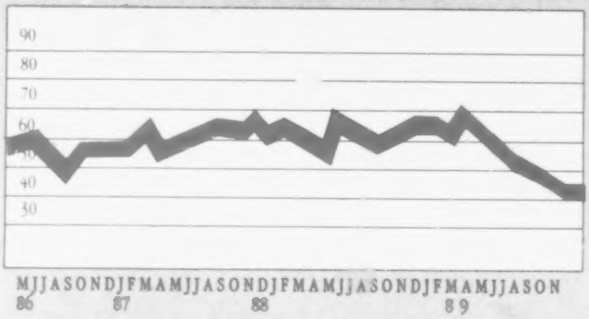
	Latest level (Nov.)	% change from: Month ago	Year ago
Bearings	125.7	0.2	5.0
Bolts, nuts, etc.	114.5	0	6.0
Chemicals, inorganic	[illegible]	0.5	7.0
Chemicals, organic	111.5	−0.6	−3.4
Concrete products	111.1	0.2	1.4
Corrugated cartons	116.7	0.2	1.1
Cutting tools, small	112.5	0.6	4.1
Electric lamps (bulbs)	109.6	−0.3	2.8
Electronic components	112.9	0.2	1.2
Fans and blowers	[illegible]	0.1	5.4
Foundry and forge products	115.3	0.1	3.8
Fuel oil (residual)	49.2	2.1	34.8
Furniture, commercial	130.4	0.3	3.6
Gasoline	62.1	−4.9	5.8
Glass, flat	108.6	−0.4	−1.5
Glass containers	115.9	0	3.2
Gypsum products	110.9	0.6	−3.2
Hand tools	129.5	0	5.6
Hand tools, power driven	117.6	0.5	4.0
Industrial furnaces	125.3	0.1	2.9
Integrating and measuring instruments	122.3	0.6	5.5
Internal combustion engines	116.5	0.1	3.7
Lubricating oil	113.7	−1.2	4.0
Lumber millwork	109.3	0.2	4.4
Material handling equipment	113.2	0.2	3.9
Metal containers	112.8	−1.9	1.6
Metal mill shapes (nonferrous)	134.4	−1.7	3.4
Metal tanks	111.8	0	4.6
Motors and generators	130.0	0.1	4.3
Motor trucks	134.1	−1.5	2.9
Office and store equipment	110.2	0.6	1.9
Paperboard	139.7	−0.2	2.3
Paper boxes and shipping containers	131.2	0.2	4.0
Paper office supplies	121.7	−0.2	2.7
Paint	121.4	0.7	6.1
Plastic resins	127.4	0.4	9.1
Precision measuring tools	125.3	0	2.9
Pumps and compressors	116.3	−0.1	4.7
Refractories	120.0	−0.1	4.2
Rubber belts and belting	123.8	4.9	14.2
Scales and balances	107.4	0.7	0.7
Steel products	114.4	−0.1	1.6
Switchgear	119.7	0.3	4.6
Textiles, synthetic fibers	107.3	0.6	7.9
Textiles, gray fabrics	116.4	0.3	1.7
Tires and tubes	97.2	−0.1	2.7
Transformers and power regulators	118.7	−0.3	8.2
Welding equipment	123.9	1.1	4.2
Wire and cable	146.5	−1.7	4.0

NAPM procurement trends

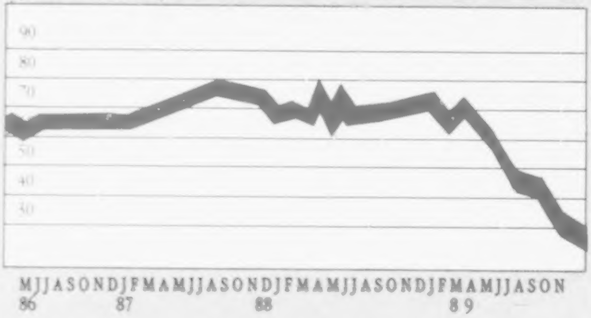
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

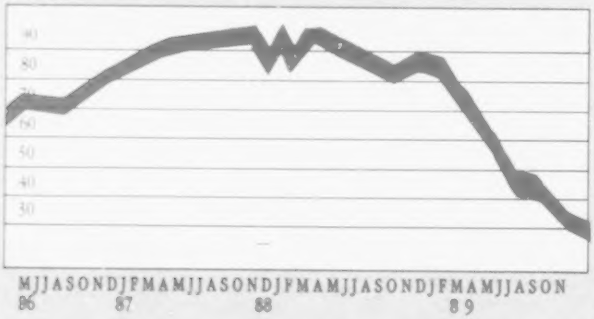
Inventories



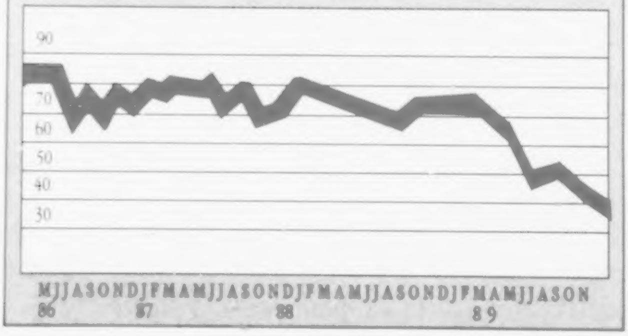
Speed of delivery



Prices



New orders

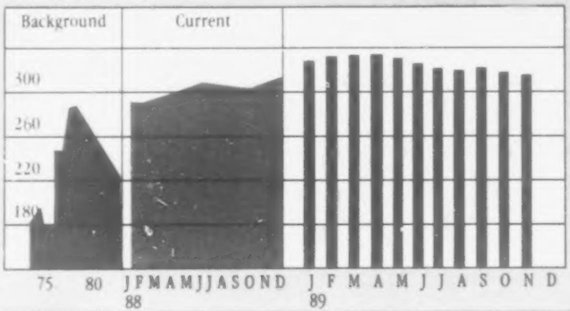


BUSINESS DATATRAK

Raw material price barometer

(Index 1967 = 100)

Last month 305.0
Month before 314.8
Year ago 309.7



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt., merchant quality	18.70	18.70	16.50
Steel, bars, Pitts., cwt	18.70	18.70	16.50
Steel, bars, C.R., Pitts., cwt	23.95	23.95	19.45
Steel, plates, Pitts., cwt	23.25	23.25	23.25
Steel, plates, H.R., Pitts., cwt	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt	29.65	29.65	28.15
Steel, strip, C.R., Chi., cwt	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.735	.760	1.130
Antimony, N.Y., dealer, lb	.81	.81	.98
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb.	1.73	1.78	2.13
Brass, yellow, [sheet], lb.	1.69	1.74	2.09
Cadmium, N.Y., dealer, lb.	5.25	5.15	8.45
Copper, electrolytic, wire bars, refd., lb.	1.10	1.15	1.50
Copper sheet, over 24 in., lb.	1.82	1.87	2.22
Lead, common, N.Y., lb.	.38	.41	.40
Magnesium, pig ingot, [99.8%], lb.	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl.	290.00	290.00	280.00
Molybdenum, oxide, dealer, lb.	2.54	2.51	3.46
Nickel, cathode, dealer, lb.	3.80	4.10	8.40
Platinum, dealer, oz.	495.00	504.00	520.00
Silver, N.Y., oz.	5.70	5.32	6.18
Tin, N.Y., dealer, lb.	3.22	3.08	3.44
Zinc, Prime West, East St. Louis, lb.	.68	.73	.80
Zinc, die casting alloy, No. 3, lb.	.760	.810	.865
PAPER			
Uncoated book #3 offset, ton	940.00	940.00	965.00
Watermarked bond, ton	1095.00	1095.00	1080.00
Gummed sealing tape, carton	19.10	18.87	17.88
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	835.00	835.00	730.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	440.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	.282	.282	.280
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.24	1.24	1.18
Cotton middling, 1", N.Y., lb.	.6[illegible]1	.614	.537
Printcloth, 48", 80x80, N.Y., spot. yd.	.50	.50	.50
Army duck, 37", 13 oz., yd.	1.40	1.40	1.50
Blended printcloth, 64", 78x54, yd.	.80	.76	.70
20s combed yarns	1.94	1.94	1.80
Wool 64s, Staple, lb.	3.00	3.50	4.50

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.42	.42	.36
Ammonia, anhydrous, tankcars, Gulf Coast, ton	86.00	88.00	125.00
Benzene, petroleum, tanks, Houston, gal.	1.35	1.51	1.85
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid [over 25%], tanks, lb.	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.106	.106	.106
Glycerine, synthetic, tanks, lb.	.845	.845	.760
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.32	.32	.60
Naphthalene, crude, tanks, lb.	.16	.16	.16
Phthalic anhydride, tanks, lb.	.33	.40	.41
Polyethylene resin, low density liner film grade (market place), lb.	.360	.350	.515
Polypropylene, homopolymer grade (market price), lb.	.365	.365	.495
Polystyrene, general purpose grade (market price), lb.	.465	.475	.590
Polyvinyl chloride, pipe grade (market price), lb.	.305	.315	.440
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.35	.35	.50
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	123.00	117.50	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	.95
Xylene, Gulf Coast, spot, barge, gal.	.78	N.A.	N.A.
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	336.56	344.67	328.39
Lumber 2x2 pine, mbf, cl	330.68	334.14	321.41
Plywood, plyform, ¾", msf, cl	617.67	617.67	547.94
Plywood, ⅝", msf, cl	434.33	434.33	375.20
Cement, bulk, ton, tl	62.56	62.71	63.71
Sand, ton, cl	7.03	7.03	7.23
Ready-mix concrete, 3,000 psi/cu. yd.,	47.60	47.37	48.77
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	90.09	89.78	86.72
Reinforcing bars, whse base; per cwt	22.08	22.08	20.85
Asphalt paving AC-20	104.22	103.17	105.44
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	17.90	17.67	N.A.
FUELS			
Crude oil (W. Tex Int Cush), bbl.	23.40	20.25	17.40
Diesel (reseller rack, Chi), gal.	1.132	.6025	.5920
Fuel oil No. 2 (N.Y.), gal.	.9650	.6485	.5485
Fuel oil No. 2 (Gulf spot), gal.	.8160	.5945	.5300
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	26.75	21.75	20.00
Gasoline (prem unlded NY), gal.	.7550	.5860	.5075
Gasoline (reg unlded NY), gal.	.6735	.5355	.4825
Kerosene (reseller rack, Chi), gal.	.9550	.6875	.6075
Propane (Mt. Belvieu, Tex), gal.	.5500	.2375	.2238
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	95.00	92.00	115.00
Steel, No. 1 hvy., dlvd., Chi., ton	104.00	94.00	114.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.00	.99	1.10
Copper, No. 2, East, wholesale buy, dlvd., lb.	.930	.920	.985
Brass, red, East, wholesale buy, dlvd., lb.	.960	.950	1.060
Brass, yellow, East, wholesale buy, dlvd., lb.	.570	.590	.540
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	.425	.440	.660
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.500	.510	.760
Zinc, old, East, wholesale buy, dlvd., lb.	.30	.30	.24
Lead, clean solids, East, wholesale buy, dlvd., lb.	.23	.24	.28
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	5.00	10.00
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	20.00	Nom.	Nom.
Old white ledger, Chi., ton	75.00	110.00	85.00

[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

NAPM projects small price advances

Figure on only minimal price advances this year.

So say the 300 or so top purchasing executives responding to a recent National Association of Purchasing Management Business Survey Committee poll. In a nutshell, these industrial buyers are talking in terms of only a 0.7% increase through May—and a not much higher 1.6% boost for the year as a whole.

It's hard to find a rosier projection than that. For one, the projected advance is considerably under what most analysts have been forecasting. More important, it's a lot less than the 2.6% average boost these same PMs experienced in the year just ended.

Other survey signs of a still-improving price picture: only 12% of the queried buyers expect across-the-board price increases over the next few quarters (*versus* 28% a year earlier when the same question was asked about early 1989). Equally significant, some 34% think the increases will be slight—more than double the 14% who felt that way a year ago.

Robert J. Bretz, Pitney Bowes' director of materials management, who heads up the NAPM group, attributes the new projections to two key factors—a somewhat less ebullient demand pattern and increasing availability. On the latter score, he cites another finding of the survey which suggests that today's average capacity utilization rate has dropped to near 85%—compared to 88.5% a year ago and 87.4% some six months ago.

And new capacity is likely to continue coming onstream. Thus capital spending in the new year is expected to increase 7.2%—not that much under last year's estimated 7.9% advance.

Two other hopeful signs as far as containing price increases are concerned: very modest labor-plus-fringe-benefits costs and a relatively strong dollar.

On the labor front, buyers figure the average outlay will be rising by only about 3.6% over the new year. Also keep in mind this is an overall figure and does not take into account productivity gains. Factor in this efficiency offset, and the resulting unit labor cost increase will probably be at least a percentage point under the nominal figure.

As for the dollar, purchasing executives who import figure our currency will actually be stronger *vis a vis* the Canadian dollar, the British pound, the Italian lira, and the French franc. And expectations are that we should hold our own against the German mark and the Japanese yen.

Points to keep in mind here: this kind of dollar performance, other things being equal, should keep a lid on import prices, thus further enforcing the current competitive industrial buying climate.

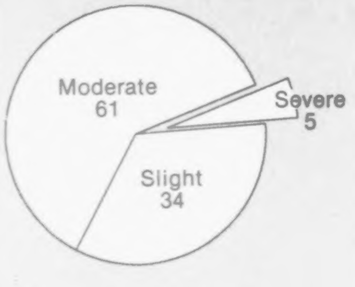
The growing role of imports, incidentally, is also pointed up by the fact that PMs expect continuing gains in their overseas purchases—despite a slower economy. Specifically, 28% of those queried see an increase in their import volume over the first half of 1990—significantly more than the 17% who plan on cutbacks.

Given all the above, it's not surprising that inflation is rather low on the PM list of worries. Concerns about prices, for example, are mentioned by only 8% of surveyed buyers. Contrast that to a year ago, when inflation was their number one worry (cited by 22% of these same purchasing pros).

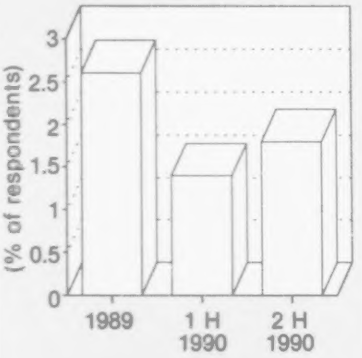
The new NAPM report also provides some documentation as to the overall demand deceleration anticipated. All in all, industrial buyers pit the average current dollar increase in overall business at only 5%.

Inflation: the NAPM view

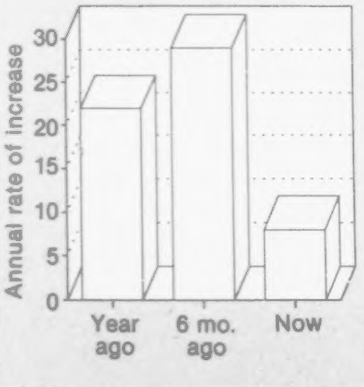
Severity of change



Numerical change



PM concern

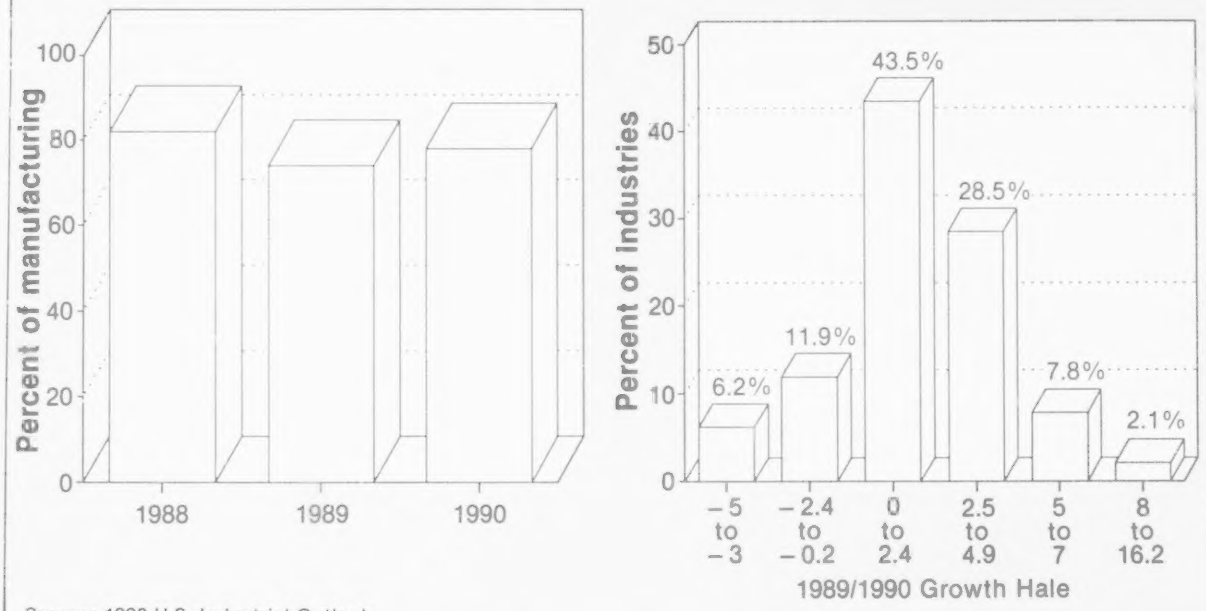


An industry-by-industry appraisal

1990: Another year of growth

A lot more winners than losers...

But most demand gains will be modest



Source: 1990 U.S. Industrial Outlook

The majority of U.S. industrial firms can look forward to an eighth straight year of business growth. Specifically, of some 193 manufacturing industries surveyed, an impressive 150 (78% of the total) are expected to post real demand gains in 1990.

The details, contained in the Commerce Department's new *1990 U.S. Industrial Outlook,* suggest the biggest gains will again be in high-tech and health-related areas. Examples (in real or in inflation-adjusted shipment terms): medical and dental equipment (8.2%), computers (4.3%), measuring and controlling devices (4.2%), and aerospace (3.5%).

All these are well in excess of the overall 2% average growth increase expected. On the other hand, there will be a few laggards—most notably the auto, steel, and construction material sectors.

The new report doesn't give any specific price projections, but for some industries both current and constant dollar shipment forecasts are provided. And by comparing the two series, it is possible to come up with some rough unit price estimates.

These projections, shown in the table accompanying this article, suggest relatively modest upward pressures. No industry, for example, is expected to sport a unit price advance in excess of 5%. And in some instances (medical equipment, plastic bottles, and crude oil), actual declines are deemed likely.

The new report is also moderately bullish on exports—though gains are expected to lag those of the past few years. In any case, continuing good increases are seen in such industries as medical and scientific equipment, commercial aircraft, machine tools, and papermaking machinery.

All in all, export growth is put at 3.9% for the new year. But because imports are projected to grow by an almost-as-impressive 3.7%, the trade deficit in real terms will show only a small decline, dropping $2-5 billion from 1989's estimated $108 billion red ink figure.

Below are thumbnail sketches of what Uncle Sam's analysts see ahead for the year in some of the nation's key industries. All are culled from this 500-page study available for $27 from the U.S. Government Printing Office or any of the 23 Commerce Department's regional bookstores.

- **Construction materials:** Real demand should be slightly lower than in 1989 (off 0.6% to be exact), but not much below the cyclical peak reached in 1986-87. Reason: construction put in place this year will fall about 1% after adjustment for inflation. Some of the specific real demand changes anticipated: cement (0.4%), concrete blocks (0.2%), ready-mixed concrete (0.7%), flat glass (-4.9%), brick (0.3%), gypsum products (0.5%), fabricated structural metal (-3.8%).

- **Energy:** Overall usage will rise 1.7%. Best showing is seen for nuclear power (up 5.3%). Natural gas will be at the average (1.7%). But refined petroleum products will lag—advancing only 0.9%. And since this is part of a longterm trend, the industry is not expected to opt for more than marginal increases in refinery capacity.

- **Chemicals:** Demand should follow the general economic trend—advancing only 1.7% in real terms this year. Breaking this out, shipments of petrochemicals will grow at around a 1.8% rate—only about one-third the 1989 gain. Organics should increase around 2.4%, while inorganics will remain where they are. One important trend: the growing shift from low-unit-price, high-volume chemicals to high-unit-price specialty chemicals.

- **Steel:** Shipments should drop about 4% in real terms this year (to 78 million tons), the lowest level since 1987, but well above the depressed volume of the 1982-86 period. Behind the slippage: weakness in autos and nonresidential construction, plus a reduction in inventories. Another trend worth noting: growing foreign investment. By 1989 overseas steel makers (mostly from Japan) owned almost 25% of domestic integrated mill facilities.

- **Aluminum:** U.S. shipments will increase less than 1% this year (to about 7.71 million metric tons or 17 billion pounds). The sluggish trend is due to weak demand in the transportation and building/construction sectors. Also the growth in exports will moderate—putting additional downward pressure on shipments. Containers and packaging will remain the dominant end-use sector. Longer term, domestic shipments are expected to increase at about a 2% annual rate through 1994.

- **Copper:** U.S. use will be flat to slightly lower because of near-zero growth in construction and electrical and electronic products—and because of projected decreases in transportation equipment output. But stronger overseas markets still suggest a global demand gain of near 2%. On the supply side, U.S. and overseas output will each increase by about 5%—something that suggests better balance and even a small surplus if big work stoppages can be avoided.

> ***"These projections suggest relatively modest upward pressures."***

- **Nickel:** World-class mine output will increase about 4% (to 1,005,500 tons), while plant production will advance 5% (to 965,000 tons). On the other hand, U.S. demand could fall nearly 4%. Upshot: increasing excess capacity which should exert continuing downward pressure on primary nickel prices.

- **Zinc:** U.S. demand will fall fractionally (to 1,085,000 metric tons) because of a projected dip in transportation usage and flat growth in commercial and nonresidential construction. Galvanized products will be the only end-use market to experience any growth this year, thanks to more intensive use in autos. Longer term, look for the zinc industry to grow about 1.3% a year into the mid-1990s.

- **Lead;** consumption should decrease about 0.4% (to 1,220,000 metric tons). One reason: a near 2% fall in production of original equipment batteries—more than enough to offset only about a 1% rise in replacement battery shipments. Longterm growth isn't likely to impress, either—with only about a 1%/year advance seen over the next few years.

- **Nonferrous castings:** Real shipments are likely to fall 2.3% this year. Demand for cast copper valves and fittings should roughly equal 1989 levels, but shipments of aluminum and zinc castings will decline in response to lower auto production. Capacity utilization will range from 50-75%—with aluminum and zinc foundries at the high end, and copper, brass, and bronze foundries at the low end.

- **Ferrous castings:** Real shipments should decrease about 3%—primarily because of falling auto and truck production. Steel castings, however, should increase because of strong demand for railroad castings. The industry-wide trend away from malleable iron castings will continue. On a more bullish note: the industry should retain most of the business it recaptured from foreign competitors in the late 1980s.

- **Containers:** Environmental concerns will limit plastic bottle increases to 3.6%. Even so, this should surpass the smaller gains anticipated for glass (0.8%) and metal cans (3.1%). Unit prices should drop about 2% in the plastic area because of lower resin costs. But glass tags will be up 1.2%, with metal cans up by as much as 5% on a unit basis because of still-improving demand and continued rationalization of production capacity.

- **Paper:** Planned capacity additions in newsprint and in coated and uncoated printing papers will outpace growth in demand—thereby reducing capacity utilization rates. All in all, paper demand will rise only 2.3%—at a time capacity is rising 3.2%. Add in increased availability of paper from foreign sources and the result will probably be additional downward pressure on prices.

- **Corrugated boxes:** Constant dollar shipments are expected to climb by about 2% in real terms this year—representing a slightly lower rate of growth than reported for 1989 and slightly below the industry's longterm compound annual growth rate of 2.5% noted over the past two decades. Corrugated exports, meantime, will slow significantly from the sharp annual gains of recent years, as box demand in major U.S. overseas markets (especially Canada and Mexico) cools.

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1990 demand trends: Uncle Sam's view

	% change in real demand '90/89
Sawmills and planing mills	2.5
Hardwood dimension & flooring mills	2.0
Millwork	2.0
Hardwood veneer and plywood	−2.0
Softwood veneer and plywood	−1.0
Wood pallets and skids	2.0
Pulp mills	3.0
Paper mills	2.3
Paperboard mills	2.3
Setup paperboard boxes	0.9
Corrugated and solid fiber boxes	2.0
Fiber cans, drums & similar products	1.0
Sanitary food containers	1.0
Folding paperboard boxes	1.0
Paper coated & laminated packaging	3.0
Bags: plastics, laminated & coated	3.0
Bags: uncoated paper & multiwall	−3.0
Envelopes	2.5
Stationery products	2.3
Manifold business forms	1.6
Alkalies and chlorine	2.0
Industrial gases	3.0
Plastics materials and resins	2.0
Synthetic rubber	2.0
Cellulosic manmade fibers	3.4
Organic fibers, noncellulosic	2.3
Paints and allied products	4.0
Cyclic crudes and intermediates	1.5
Nitrogenous fertilizers	−0.2
Phosphatic fertilizers	4.0
Adhesives and sealants	7.0
Petroleum refining	−0.3
Tires and inner tubes	1.5
Rubber & plastics hose & belting	2.0
Plastics bottles	3.6
Flat glass	−4.9
Glass containers	0.8
Cement, hydraulic	0.5
Brick and sturctural clay tile	0.8
Ceramic wall and floor tile	3.5
Concrete block and brick	0.2
Ready-mixed concrete	0.7
Gypsum products	2.4
Steel mill products	−4.1
Metal cans	3.1
Fabricated structural metal	−3.8
Screw machine products	2.0
Bolts, nuts, rivets and washers	2.0
Automotive stampings	2.0
Valves & pipe fittings	2.0
Farm machinery and equipment	3.4
Construction machinery	2.5
Mining machinery	2.5
Oil and gas field machinery	5.0
Machine tools, metal cutting types	1.0

Machine tools, metal forming types	1.8
Special dies, tools, jigs & fixtures	0.0
Power-driven handtools	−1.4
Welding apparatus	6.8
Textile machinery	4.4
Paper industries machinery	4.4
Printing trades machinery	1.2
Food products machinery	2.4
Pumps and pumping equipment	2.8
Ball and roller bearings	3.0
Air and gas compressors	2.5
Packaging machinery	2.5
Computers & peripherals	4.3
Refrigeration and heating equipment	2.2
Carburetors, pistons, rings, valves	−3.7
Transformers, except electronic	0.0
Switchgear and switchboard apparatus	2.0
Motors and generators	3.0
Relays and industrial controls	1.1
Current-carrying wiring devices	2.2
Noncurrent-carrying wiring devices	0.0
Lighting fixtures	2.0
Telephone and telegraph apparatus	2.1
Radio communication & detection equip.	4.0
Semiconductors and related devices	−4.8
Electronic parts ex semiconductors	1.7
Storage batteries	2.9
Engine electrical equipment	0.0
Motor vehicle parts and accessories	1.4
Motor vehicles, bodies	−2.2
Aircraft	2.6
Aircraft engines and engine parts	5.6
Aircraft parts and equipment	3.4
Ship building and repairing	−1.0
Instruments to measure electricity	4.8
Laboratory instruments	5.1
Measuring & controlling inst.	2.4
Surgical and medical instruments	10.0
Surgical appliances and supplies	9.0
Dental equipment and supplies	6.1
X-ray apparatus and tubes	2.0
Electromedical equipment	5.5
Photographic equipment and supplies	2.8

try's longterm compound annual growth rate of 2.5% noted over the past two decades. Corrugated exports, meantime, will slow significantly from the sharp annual gains of recent years, as box demand in major U.S. overseas markets (especially Canada and Mexico) cools.

• **Packaging paper and plastic film:** Demand should expand about 3% in 1990 as new applications develop and established markets expand—especially for the single-web plastic films and multiweb plastic laminates. Competition between shrink and stretch films will increase as each sector battles for market share in package wrapping, bundling, and unitizing.

• **Stationery supplies:** Sales of tablets, pads, and looseleaf fillers, etc., will advance 2.5% (in constant dollars) this year. Exports and imports will increase 5.0% and 4.5%, respectively, over the same period.

• **Machine tools:** The breakneck sales pace of last year when a 28% real increase was racked up is not likely to be repeated. Nevertheless, a small 1% increase still seems like a good bet as the industry works down its relatively large backlogs. Metal-forming types (up 1.8%) will be slightly better than metal-cutting types (up 1.0%).

• **Construction equipment:** Constant dollar growth is put at 2.5% for 1990. An expected increase in highway construction will help spur demand here. Unit prices should advance 2.4%—a bit under last year's 3.0% advance.

• **Pumps and compressors:** Figure on about 3% real growth. New demand is likely to come from the electric power industry as utilities seek to expand power stations to keep up with the growing demand for electricity. The repair and replacement parts market will also continue to be a major source of demand. Prices should advance about 2.5% (*versus* 3% last year).

• **Cooling and heating equipment:** The air-conditioning, refrigeration, and heating industry should advance 2.2% in real terms. This assumes continued growth for replacement products and relies primarily on two factors: increased replacement buying and the need to operate more efficient units. On balance, there should be more and more technological innovation as well as increased retrofit opportunities.

• **Motor vehicles and parts:** U.S. car sales should slip about 1%—to 9.9 million units. Trucks are also projected to fall by 2.2%. Auto parts, on the other hand, should rise 1.4%, thanks to increased domestic sourcing by the Japanese, an aging vehicle fleet, and increased exports.

• **Health-related equipment:** Manufacturers of medical and dental instruments and supplies should rack up an 8.2% real gain, compared to 7.7% last year. This breaks down as follows: surgical and medical instruments (10%), surgical appliances and supplies (9%), dental equipment and supplies (6%), and electromedical equipment (5.5%).

• **Component parts:** Relatively modest constant dollar increases are projected as follows: valves and fittings, fasteners, and screw machine products (all 2%), bearings, motors and generators, and storage batteries (all around 3%). One exception: a decline of 3.7% is seen for the carburetor, piston, ring and valve category.

Continued on page 70...

Fisher LabExpo 90

FISHERbrand equipment and supplies are described and pictured, and applications or procedures for which the product is best suited are recommended. General and Trademark products are featured. "New" items identified with sunburst. *Fisher Scientific, 711 Forbes Ave., Pittsburgh, PA 15219* **Circle 109**

Wire equipment

Full color, 144-page catalog contains technical details on complete line of products including wire cutting and stripping equipment, dereeling, measuring, and coiling units, component lead formers, infrared heat tools and equipment, and FybRglass industrial brushes. *The Eraser Co. Inc., P.O. Box 4961, Syracuse, NY 13221* **Circle 111**

Caster buying guide

The new 24-page "Condensed Buying and Specifying Guide" (Catalog No. 255) features complete specifications and illustrations of Hamilton Caster & Mfg. Co.'s products. Models added to this latest edition include the "Stainless Steel" swivel and rigid casters; the red-designed 1,800 lb class ForgeMaster series; and heavy duty dual-wheel Maxi-Duty casters for capacities to 9000 lb. *The Hamilton Caster & Mfg. Co., 1637 Dixie Highway, Hamilton, OH 45011-4041* **Circle 116**

New Models
Casters and Trucks by Hamilton
Hamilton

Warning signs, tags

EMED's catalog includes new asbestos removal and warning line of products. The new products include asbestos removal bags, barricade tapes and pennants, floor stands, tags, signs, and decals that aid in compliance with OSHA's Hazard Communication Standard and EPA's AHERA regulations. *EMED Co. Inc., P.O. Box 369-BI, Buffalo, NY 14240* **Circle 102**

DANGER
DANGER
DANGER
DANGER
DANGER
ASBESTOS
BEING REMOVED
DANGER
ASBESTOS

Chain system

Full-color brochure describes Cambridge/MCC MagetFlex Chain Systems, a sideflexing conveyor chain system. Patented design eliminates the need for clumsy hold-down tabs or beveled shoes to hold chain onto its track. *Cambridge Wire Cloth Co., Dept. 9B-3, P.O. Box 399, Cambridge, MD 21613* **Circle 58**

Paper cushioning

Brochure describes complete line of paper packaging materials for surface protection and cushioning. Highlighted are Jiffy Custom Wrap™ and Kushion Kraft® packaging materials. *Sealed Air Corp., 19-01 State Highway 208, Fair Lawn, NJ 07410* **Circle 99**

...continued from page 31

- **Aerospace:** Constant dollar value of shipments this year should grow 3.5%—making for eight consecutive years of increase. Strong demand and output by the civilian sector (some 512 large commercial aircraft should roll off production lines this year—*versus* 445 in 1989) will offset declines in the military sector. Unit prices will rise by about 3%.
- **Electric and wiring equipment:** Constant dollar industry shipments of noncurrent-carrying wiring devices should remain virtually unchanged because of a flat overall construction market. But lighting fixtures should manage to eke out a small 2% real gain on a combination of retrofitting and modernization—plus some bottoming out in residential construction.
- **Photographic equipment and supplies:** A real advance of 2.8% is projected. While a bit under recent rates, the gain is still respectable and reflects 1) continuing development of photo-imaging products and 2) increased production of sensitized color paper and pre-sensitized plates by Japanese firms based in the U.S. Prices should rise about 4% on average.
- **Semiconductors:** While constant dollar shipments should be up 16%, the current dollar level should be off by 5%. Implication: a better-than-20% unit price decline. Also worth noting: the increasingly costly development of memory devices is forcing even the larger firms into joint R&D. In any case, the cost of new fabrication facilities is increasing at an exponential rate, with projections of $600-700 million for 16 megabit DRAM facilities.
- **Computers:** About a 4% gain in current dollar terms is seen. Spending on mid-range and large-scale systems, however, should remain weak. And spending for workstations should moderate. But there should be some additional advance in the microcomputer area. Another key trend: the industry is becoming increasingly internationalized, with the U.S. now facing strong competition from both Japan and Europe. Domestic outfits are also sourcing more components abroad. **PW**

C4670-1

JIT: problems and solutions • EDI: the electronic handshake • Put the sales pitch in the contract • Readers respond on ethics

Purchasin

THE BUYER'S MAGAZINE

MARCH 1990

In transportation: Putting partnering and shipping together

Conrail's James Hagen

CONTENTS

March 1990, Vol. 34, No. 3

COVER STORY

36 Putting partnering and shipping together
Several shipping experts explain how buyers and transportation companies, working together, can make business flow more smoothly.

44 Slow demand will hold down transport costs
Executive editor Bob Reichard examines PMs' use and projected use of transportation services, based on a *PurchasingWorld* survey.

45 Rates leveled by competition, demand
The WEFA Group says moderation is ahead in the transportation picture for 1990.

47 JIT brings problems and solutions
In an excerpt from their soon-to-be-published book, authors Ansari and Modaress discuss the benefits

The magic word in transportation is partnershipping, according to industry experts such as Conrail's James Hagen, above. Page 36

Winner of PurchasingWorld's Crystal Ball Contest was Eddie Meredith, Jr.

FEATURES

26 Your next handshake may be electronic
What's the state of Electronic Data Interchange today? *PurchasingWorld* provides a rundown and a list of EDI sources, literature, and associations.

32 An EDI progress report
EDI Research, Inc. plots the current and planned use of EDI, as well as its potential payoffs and projected dollar growth.

65 Making a business of forecasting
This year's winner of our Crystal Ball contest is an economist disguised as a PM—Eddie Meredith, Jr., of General Dynamic's Electric Boat Division. He reveals his methodology and how it feels to win the annual contest, and we list the seven government numbers as well as the top forecasters who finished behind him.

DEPARTMENTS

4 **PW Pointers**

5 **Editorial**
Going faster can be better

6 **Letters**
Back-door selling . . . ethics, and a different view

8 **Inside purchasing**
Dr. Ken answers reader inquiries about management skills . . . substituting "equals" . . . the value of imports

11 **PW Predicts**
The price picture . . . steel prices . . . plastic resins . . . industrial rubber products . . . commodity briefs

17 **Business Datatrak**
Key trends from NAPM . . . net real imports . . . prime interest and the savings rate . . . the steel scene and SSCI views . . . a 1990 outlook on R&D

52 **PW Office**
Civilizing the used equipment market . . . office products

68 **Products**

72 **Classifieds**

75 **Advertisers index**

76 **Purchasing and the law**
Make sure the sales pitch is in the contract

PurchasingWorld

PW POINTERS

Correction: Electronic Data Systems corporation was incorrectly identified as Anacomp in the March issue's "Guide to Software Solutions." EDS offers Purchasing Decision Support (PDS) software to strategically automate purchasing functions in multi-location corporations. *Electronic Data Systems Corp., 20325 Center Ridge Rd., Suite 225, Rocky River, OH 44116*
Circle 2

Ameritech guide aids buyers

Buyers and sellers of industrial products and services can now take advantage of the 1990 Ameritech Industrial Purchasing Guide (formerly the Ameritech Industrial Yellow Pages). A card accompanying the guide directs the book to the purchasing department of the business and insures authenticity. The directory has two sections: alphabetical white pages and the products and services yellow pages containing over 4,500 headings. It is published in 13 regional editions.

Company sensitive to environmental woes

Dow Chemical Company is taking action in the struggle for a clean and healthful environment. The company is phasing out the use of blowing agents containing fully halogenated chlorofluorcarbons (CFCs) in the production of a polystrene foam 'loose-fill packaging material. The company is experiencing a 98.5% reduction in ozone depletion potential compared to the previous blowing agent, with virtually no loss of performance.

Transport company plans drug tests

CSX Transportation Inc. has announced plans to begin random drug testing of its employees covered by the Hours of Service Act, as well as managers who supervise personnel in those safety-related positions. CSX was one of the first companies in the industry to start employee assistance programs aimed at the treatment of drug and alcohol abuse.

Bulletin stresses savings beyond a bid

Titled "Don't Pay A High Price For A Low Bid," the bulletin emphasizes the savings that can go far beyond a low bid. The four-page bulletin describes the many ways that an extruder can help a company to hold down costs while improving product quality and profits. Topics discussed include: lower production and assembly costs; reduced capital expenditures; smoother production flow; smaller inventories; greater product durability, performance and customer appeal. *R.D. Werner Co., Inc., Mill Products Division, P.O. Box 580, Greenville, PA 16125*

Video shows how a quality award is won

The Association for Manufacturing Excellence has produced an educational video story of how total company dedication to key quality initiatives achieved the Malcolm Baldrige National Quality Award for major manufacturing companies. It outlines the corporate goal of "total customer satisfaction" and attaining key initiatives of total cycle time reduction, product and manufacturing leadership, product improvement, participative management within and cooperation between organizations.

Video shows how excellence was achieved through leadership, information and analysis planning, human resource utilization, quality assurance results, and customer satisfaction. *AME 380 W. Palatine Rd., Wheeling, IL 60090*

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PW PREDICTS

Demand holds prices in check

A lackluster demand pattern in early 1990 would seem to assure continuing near-term price restraint. Indeed, a fair number of industrial price tags have actually eased.

If there is any doubt on this score, take a look at some of the nation's leading price indexes—starting first with the NAPM Business Survey Committee yardstick which compares the number of members reporting increases with the number noting reductions. It shows price declines predominating for the eighth consecutive month.

The gap has narrowed a bit, but the NAPM group's chairman Bob Bretz feels a good number of the recent increases are little more than aftermath of recent cold weather, rather than a reflection of any underlying upward pressure. Moreover, should declines continue to top increases over the next few months, it would be especially significant. That's because March and April have been popular months for boosting industrial prices.

Also indicative of a buyer's market is the continuing softness in sensitive raw material quotes. This grass roots indicator of inflationary pressures is now running a significant 10% under the peaks of early last year. And, as suggested elsewhere in this section, such key commodity lines as steel, nonferrous metals, and plastic resins all are shaky, and in some cases edging lower.

The upward tug on more highly fabricated goods also seems to be minimal. Thus, a new Commerce Department projection sees capital goods tags rising only 1.4% in 1990. That's actually down a bit from last year's already-low 1.8% advance.

Also, don't forget Uncle Sam's all-inclusive industrial producer price barometer. This bellwether inflation standard is running less than four percent ahead of a year ago. More important, most forecasts point to continued restraint here. Wharton Econometrics, for example, is calling for a relatively level second and third quarter—with the year as a whole up about 2.4%.

It should also be pointed out that demand and supply aren't the only factors working to keep a lid on inflation. For one, there are import prices. Import quotes (except fuel) over the past year have held virtually unchanged. Other things being equal, this makes it a lot harder for domestic producers to post new increases.

And don't forget the Fed; latest pronouncements from the nation's top money managers indicate they're not about to ease the monetary brakes. This means less-than-otherwise-might-be-expected demand for houses, cars, and even capital equipment—and, as such, should put an additional lid on any new price increases.

Then there are energy tags; prices were driven up by frigid early winter weather, but the worst is over. Ample crude oil supplies should hold first quarter 1990 refiner acquisition costs to about $18/barrel (about $1 under fourth quarter 1989 levels). And for all of the new year, these costs should average out in the even lower $16-17/barrel range.

There are still some trouble spots. In the service sector, for example, employer health insurance tabs could be up another 15% or so. But even in services there are some offsets—with Wharton and *PW* readers agreeing that transportation costs will rise only 3-3.5% this year.

Finally, even the normally faster-rising cost-of-living index seems to be under control. New forecasts by three independent sources (the Bush Administration, the Congressional Budget office, and Blue Chip Economic Services) put the 1990 increase in the 4.1-4.2% range (fourth quarter 1989 to fourth quarter 1990)—down from last year's 4.7% advance.

Plastic buyers call tune

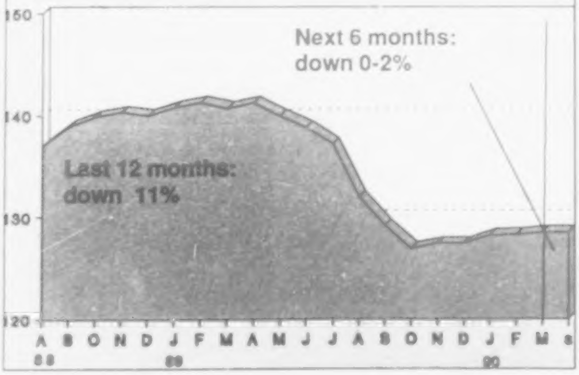
CURRENT SITUATION: Buyers have been calling most of the signals lately in the plastic resins market, forcing double-digit price declines over the past year in such workhorse commodities as polyethylene (PE), polyvinyl chloride (PVC), polypropylene (PP), and polystyrene (PS). Even the sluggish government price index, which often fails to pick up all the discounting, is off 11% over the same period.

DEMAND: Current lackluster performance should continue through the year—with totals doing little more than equalling 1989 levels. Indeed, actual declines are possible in construction-dependent PVC and appliance-oriented ABS. On the other hand, both high density polyethylene (HDPE) and low density (LDPE) could eke out small advances.

SUPPLY: New facilities coming onstream will intensify an already oversupplied market. Another 7% increase in thermoplastic resin potential, for example, is expected this year—enough to drop the overall operating rate here down to 79%. That's a far cry from the 90%-plus readings of 1987 and 1988. Only HDPE will be able to maintain a 90% pace—with other rates falling to these levels: ABS (73%), LDPE (81%), PP (73%), PS and PVC (76%).

PRICE OUTLOOK: The combination of a supply glut and so-so demand suggests a basically soft picture. But it would be unrealistic to expect a repeat of last year's sharp declines—not with feedstock costs continuing to hold relatively steady. Best bet: only fractional declines through summer. But because prices were so strong in early 1989, the year as a whole is likely to be down by as much as 10%. And even in 1991 (when demand is expected to be somewhat brisker) price advances will be limited.

Plastic resin prices (Index: 1982-100)



Air freight demand to rise

Demand could be up as much as 12-13% if business picks up later this year. But even if it doesn't, tonnage should equal 1989 levels. So predicts Right-O-Way, a CA-based multi-modal company. The firm also sees a shift in the ratio of overnight *versus* deferred delivery for a heavyweight cargo (now about 50/50). Emphasis should be toward later shipment. Reasons: 1) reluctance to pay premium costs of overnight delivery in a soft economy, 2) more precise time-definite deliveries for slower shipments, and 3) growing EDI sophistication.

Price erosion in foam feeds

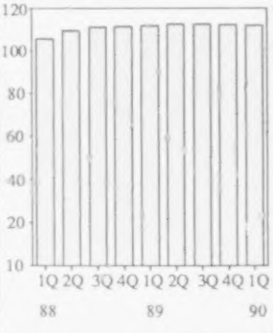
Slow auto and housing markets are taking their toll on toluene diisocyanate, the key urethane feedstock. Minor price erosion is already cropping up, with transaction prices off about 2-4¢/lb. from the $1/lb. transaction level (large buyers) of last summer. Demand isn't too strong, either, with totals expected to do little more than match last year's results. It would, however, be unrealistic to expect much more of a decline inasmuch as 1) expansion plans are being stretched out and 2) toluene input costs remain high.

Paper prices show weakness

Overcapacity and slower demand are weakening prices in most sectors. Unbleached kraft linerboard has slipped to as low as $385/ton, some $25/ton under list. This, in turn, is putting new downward pressure on corrugated cartons. Also soft are 1) market pulp, where substantial discounts are noted for Southern hardwood and softwood grades, and 2) uncoated white papers, where discounting has again broken out after a January hike failed to hold. Bucking the trend: coated boxboard, which recently advanced some $35/ton.

Corrugated cartons

(Index: 1982=100)



Commodity resin bottoms out

Polyvinyl chloride seems to be bottoming out after a decline that sent prices down 13.5¢/lb. (to 30.5¢). Sign of the times: new producer announcements aimed at tacking 2¢/lb. onto the going quote. Reasons given: a modest pickup in demand—plus the fact that the feedstock (vinyl chloride monomer) has dropped less than the resin over the past year. But whether the new boost will hold up over the longer pull is problematical, since the industry as a whole is expected to run at only 76% of potential during the current year.

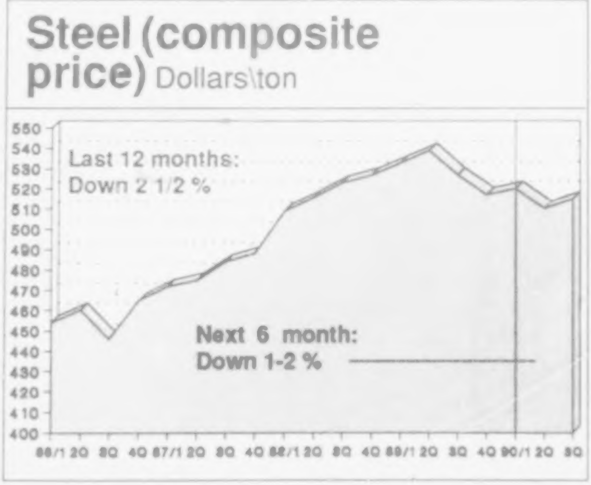
Weak steel mart

CURRENT SITUATION: The market has been weakening—reflecting reduced activity in both the auto and construction sectors. **As might be expected, prices have turned a bit softer**—with the composite quote now under $520/ton—some $20 under recent peaks. Plenty of discounting, too. Thus, the average sheet quote is being shaded anywhere from $50-100/ton, compared to the $35-75/ton discounts of late 1989.

DEMAND: Some tonnage decline is all but certain, with estimated 1990 domestic shipments put in the 77-79 million-ton range (compared to 83 million last year). But that still will leave totals well above 1982-86 depressed levels. Factors behind the current slowdown include a 2-3 million-ton drop-off in consumption, modest trade deterioration after 1989's improvement, and inventory retrenchment (estimated at near one million tons this year).

SUPPLY: No major problems are anticipated. Surveyed buyers voice few worries and actually expect improved delivery performance in the months immediately ahead. Also indicative of an easier market: **operating rates are now hovering around the 80% level**—well under the near-90% readings of just a year ago. Then, too, the big capacity rationalizations of the past decade are over. Last year, for example, steelmaking potential actually edged up by more than three million tons (to 115.4 million). And it's expected to stay there this year. **Finally, there are increasing imports**—expected to rise some 1.5 million tons this year (to near 19.5 million).

PRICE OUTLOOK: Current softness should persist—with further slight erosion possible. All told, the average 1990 steel price (*vis a vis* all of 1989) should be down about 2%. Indeed, there are already signs of this—witness the bigger discounts cited above. The recent decline in alloys (most notably nickel and vanadium) should also keep tags under pressure. **Looking further ahead—moderation should persist into 1991, when about a 3% advance is projected.**


Steel (composite price) Dollars\ton

Aluminum tags still softening

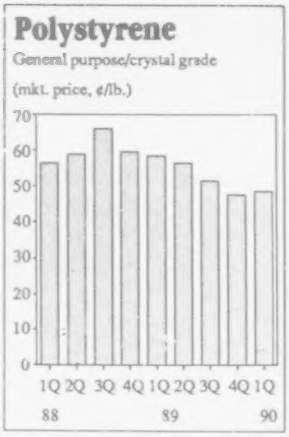
Prices continue to soften with transaction quotes on primary ingot dropping to as low as 65¢/lb. Fabricated items are also down as producers post as many as seven 5% discounts on many flat-rolled products. Can stock is also moving as much as 6¢/lb. under list. Behind the slippage: weak demand, increasing supplies and easiness in hedge markets. Also calculated to keep a lid on prices: the considerable amount of new capacity coming onstream this year—at a time when demand is expected to rise by only about 1.5%.

Zinc drops from peak

The alloying and plating metal now commands only 65¢/lb.—a drop of 30¢/lb. from the peaks of less than a year ago. Behind the latest decline: settlement of a Peruvian strike, falling London Metal Exchange quotes, and less-than-sensational demand. Nor is any turnaround expected; quite the contrary, further softness is possible as supplies continue to increase at a time when Western-world consumption remains relatively unchanged at around 5.37 million metric tons. Moreover, zero in on the U.S., and a 2% decline in usage is possible.

Styrene prices, demand rise

Prices are scheduled to move up 3¢/lb. this month. Blame it on a combination of rising styrene feedstock costs and a modest demand pickup. If the boost holds, transaction prices on volume purchases of the general purpose/crystal grade could edge up close to the 50¢/lb. level. That's still far under the 59¢/lb. high of early last year. Moreover, any further increase seems highly unlikely as another 6% boost in production potential comes onstream this year—all at a time when demand is expected to remain relatively unchanged.


Polystyrene
General purpose/crystal grade
(mkt. price, ¢/lb.)

Transport costs are mixed

Many of the early January fuel-related trucker increases (some of them ranging upward of 5%) are being either watered down or eliminated. Reason: the sharp drop in diesel fuel costs over the past month or so. Developments in other transportation areas include 1) a 50¢ boost in UPS overnight package rates (though high-volume customers can still get quotes as low as $7/package), and 2) westbound transatlantic ship rates are targeted for the following April 1 advances: $150 per 20-foot container and $225 per 40-foot container.

PW PREDICTS

Rubber loses some bounce

Good news for buyers of industrial rubber products: price increases, which averaged out near 4.1% over the past decade, are expected to show a more modest 2.6% annual rate of advance over the next few years.

This upbeat projection, part of a new Freedonia Group study of this $7 billion industry, is attributed to international competition. Specifically, the Cleveland-based research firm sees foreign sellers continuing to hold onto labor capital, and governmental assistance advantages—thus inhibiting price boosts by domestic producers. Inroads by plastic materials, adds the Freedonia study, could also be a price rise inhibitor in some product lines.

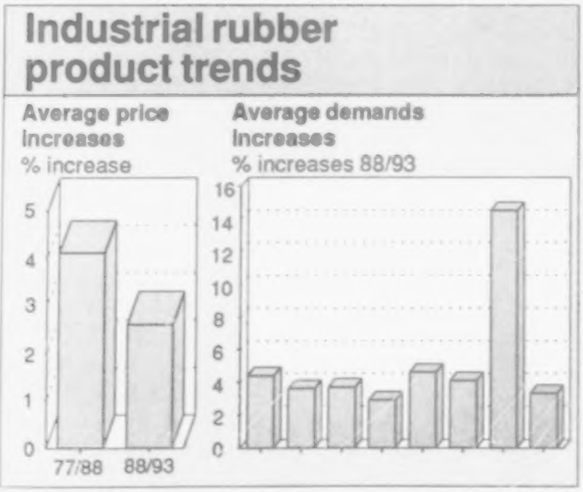
Looking back at demand, increases through 1993 are put at around 2.2% per year in real terms—and 4.9% in current-dollar terms. Best showing is anticipated for single-ply roofing (up 14.5% a year in current-dollar terms)—though supply constraints here should make for about 6% annual price hikes.

On the other hand, other mechanical rubber products will be mixed. Roll covering will face stiff competition from polyurethanes and ceramics, but will find opportunities in graphic arts. Opportunities in rubber fuel cells are based on growth in the aircraft retrofit market and problems encountered with integral tanks (a major competitor).

As for hose, only a 4.3% current-dollar growth rate is seen. Better-than-average gains are expected for the hydraulic market because of increased demand from industrial and construction sectors. Opportunities also exist in higher-performance products, and market niche filling.

The industrial belt and belting market, meantime, should increase 3.4% a year in current-dollar terms. Behind slow growth here: a combination of mature markets, severe foreign competition, and the lack of significant upturns in the farm, industrial, and mining sectors.

Industrial rubber product trends



Copper prices are dropping

Market prices have dropped close to the dollar-per-pound mark—far under the $1.30/lb.-plus quote prevailing as recently as this past fall. It is not likely to be the market floor, either. Increasing supplies both here and abroad are suggesting quotes as low as 85¢/lb. over the next year or so. Also indicative that the big run-up of the past few years is over: some producers have locked in their 1990-1991 production at just over a dollar per pound.

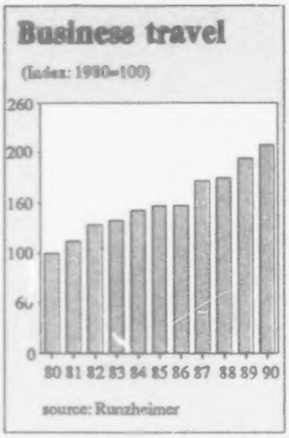
Titanium tags on the rise

Prices for alloy sheet, plate, and billet products are moving up 5% on deliveries through the third quarter. The new quote for 0.05 in. x 36 in. x 96 in. sheet (3,000 lb. quantity basis) goes from $25.31/lb. to $26.59/lb. Blame the advance on rising feedstock and manufacturing costs. Demand will be fairly brisk, too, with more than 54 million pounds of mill products expected to clear the market this year, *versus* 53 million pounds in 1989.

Travel fares fly high

Figure on the average trip costing about 7% more than it did in 1989. Airfares should rise the most (8%), followed by car rentals (7%), lodging and meals (6%). These costs have doubled over the past decade. The advance, however, is considerably under last years' big 11% spurt, when airlines tightened restrictions for travelers.

Business travel



source: Runzheimer

Paper shows some softening

Price erosion in newsprint has temporarily subsided but not before some 7% was knocked off the price in 1989. And with 6.4% more capacity being added in North America this year, another 5 - 7% drop can't be ruled out by summer or fall. Linerboard is also becoming increasingly competitive, with spot discounts of $10 - 20/ton reported.

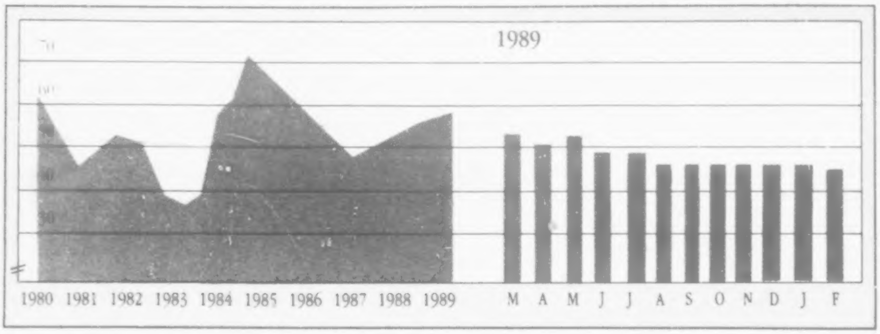
Zinc tags choke on low demand

Markets remain soft, with a combination of slower demand and rising availability holding quotes down in the low 70s. And further declines are possible. One big producer, for example, puts the average price for the year at only 64¢/lb.—well under the 75¢/lb.-plus level of 1989. Also calculated to keep prices under pressure: the build-up in producer and LME inventories that already seem to be underway.

BUSINESS DATATRAK

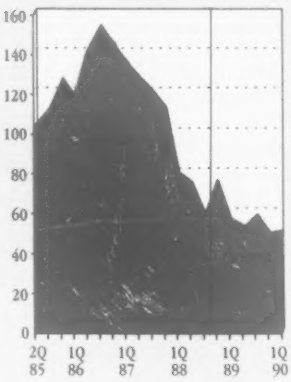
N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)

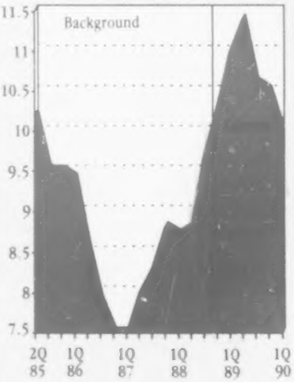


Leading indicators

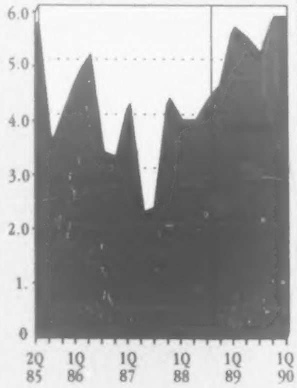
Net real imports



Prime interest rate %



Savings rate %



KEY ECONOMIC TRENDS

Taking the bad with the good

Discount talk of any imminent business downturn.

Current activity seems to be taking a breather—with real growth showing little more than fractional gains. This should be weighed against a number of economic pluses which, when combined, should be able to keep business on an upward trend in the near future.

One plus is a relatively strong employment picture. The economy is continuing to generate upwards of 200,000 new jobs a month. And the jobless rate is holding steady around the 5.3% level.

And if new "want-ad" figures are correct, this pattern is likely to continue. Thus despite slow growth, the widely monitored help-wanted index actually edged ahead during the latest reported month. The compiler of this series, the Conference Board, even feels that there could be a slight pickup in hirings over the next few months.

Employment, incidentally, is one of the three key props recently cited by Fed chairman Alan Greenspan. The other pluses noted: 1) lack of any upswing in inflation, and 2) relatively healthy export sales. The latter is confirmed by latest NAPM Business Survey Committee findings pointing to continued strength in orders from overseas buyers.

All this, in turn, suggests that the recent balance of trade improvement is not temporary. *PurchasingWorld* predictions indicate that real net imports (imports less exports in constant 1982 dollars) will hold at near the $50 billion seasonally adjusted annual rate level—half the deficit prevailing as recently as fourth quarter 1987 (see chart).

Slowly declining interest rates also have to be regarded as a favorable sign. The prime rate recently dropped back to 10%—1.5 percentage points under the year-earlier peak (see chart). And the Fed isn't about to opt for any major easing. Even the slight decline just noted should be enough to provide business with a small upward jog.

There's also little indication that consumers are pulling in their horns—while auto sales have disappointed, soft goods continue to inch ahead. In any case, consumer saving is holding steady at 5.8% of disposable income.

While higher than it's been in a long time (see chart), the figure only reflects a return to normalcy after the spending spree of the past few years. Auto sales may even pick up this spring, as Detroit increases its financial incentives.

All this is not to imply that things look bright. Certainly the latest NAPM Business Barometer (chart above) continues soft. But even here things aren't all that bad. As NAPM's Bob Bretz puts it, "The index would have to fall below 44 before indicating a GNP decline—and that's still more than a point under the latest reading."

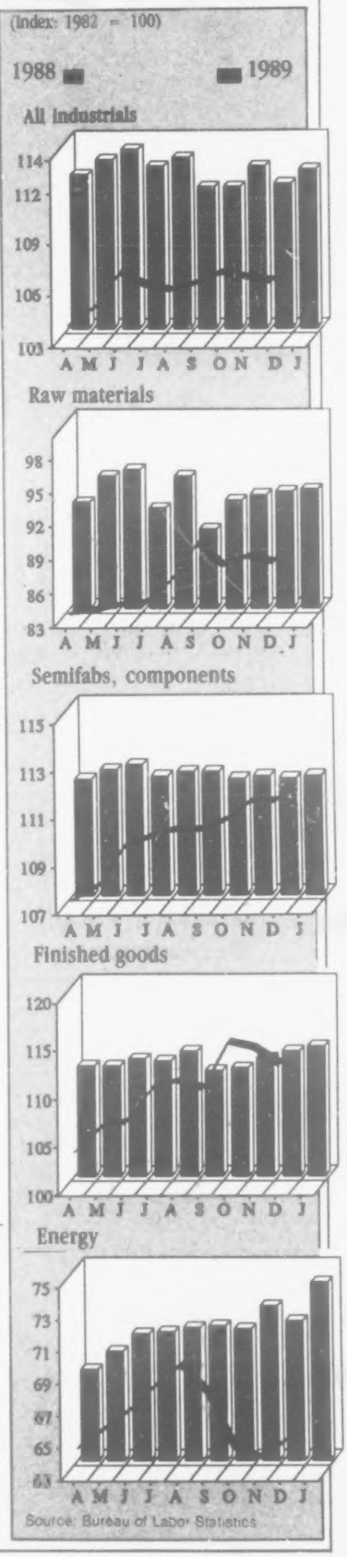
His appraisal is also backed up by the government's leading indicator index. It turned in its strongest performance in nearly a year at latest report, further bolstering the argument that a business downturn is just not in the cards.

And the Fed's Greenspan would seem to agree. In recent testimony before Congress, he called the current slowdown a "temporary hesitation," adding that the threat of recession has actually been diminishing of late.

He notes, for example, that past experience with Uncle Sam's leading indicator index suggests that odds of a recession are now in the low 20% range. And if you look at another predictive index (this one by the National Bureau of Economic Research), Greenspan says the probability of recession drops down to 10%.

In short, while things may not be all that good, they could be a lot worse.

Industrial prices



Source: Bureau of Labor Statistics

CURRENT PRICES

Price index up slightly

Chalk up another month of fractional advances for the widely monitored industrial producer price index.

The overall increase for the month was only 0.1%—or just over one percent at annual rate. It suggests that year-to-year changes this spring and summer will be a lot less than the near 4% increase noted over the past 12 months.

Also on an upbeat note (at least as far as purchasing managers are concerned): of the 50 or so individual product lines monitored on a regular basis by ***Purchasing World,*** about 20 actually edged lower over the most recent period. A few (six to be exact) also sported negative year-to-year declines.

Plastic resins, plagued by oversupply and relatively poor demand, show the sharpest declines. But as suggested in the more detailed plastics analysis in the ***PW Predicts*** section of this issue, the biggest declines in this area have probably already occurred.

Energy tags, meanwhile, are mixed. Residual and heating oils, pressured by seasonal factors, are up, but gasoline has started to edge lower. More important is the expected weakness in most energy sectors by spring, as lower crude oil costs filter down to the refined products area.

Also somewhat on the soft side are paper and paper product items. Specifically, paper, paperboard, and corrugated all showed fractional declines over the past month. The drop in the latter, in part, reflects some of the discounting that has begun to crop up in this highly competitive area.

Similar softness is noted in most metal sectors. Copper, aluminum, and zinc have all continued to edge lower. A similar pattern is noted in steel—with the 0.2% decrease over the past month probably understating the case (Uncle Sam's price watchers often fail to pick up price shading in steel transactions).

Even the more highly fabricated machinery and equipment category seems to be taking a breather as far as prices are concerned, with a 0.2% increase recorded last month. In fact, some fractional declines are reported in tools and dies, transformers and power regulators, oil and gas field equipment, and motor trucks.

Moreover, moderation in this key sector is expected to continue. ***PW*** projects only a 2.5% increase for all of 1990 *versus* all of 1989—a considerable improvement over the 3.6% price increase on machinery and equipment during the past year.

Top execs get bullish

The nation's top business executives have turned more optimistic and see things leveling off after the deceleration of the past few quarters.

That's the good news from Dun & Bradstreet's latest quarterly survey of some 1,500 of the nation's business leaders. D & B's corporate economist, Joseph W. Duncan, feels this is consistent with a "soft landing" scenario. He adds that the U.S. economy is "regathering strength for the second half of 1990; prices have moderated, inventories are in line, and new orders are respectable."

The new numbers certainly seem to indicate this:

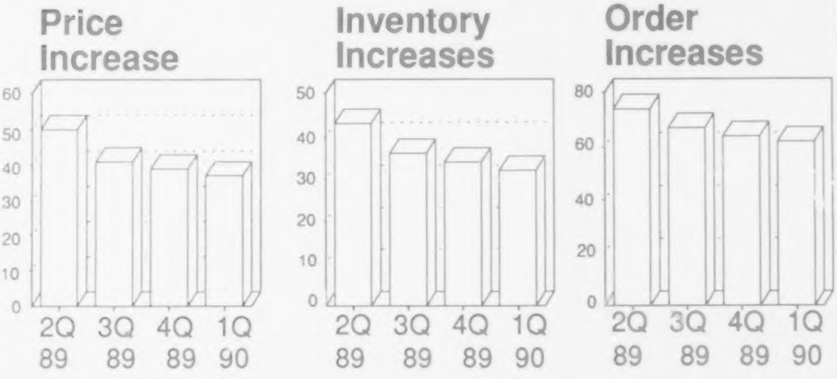
- **Prices**: Only 37% of queried manufacturing executives see first quarter 1990 prices topping those of a year ago. Last spring the comparable reading was up near 50%. All of the latest slippage here, says D & B, is centered in the nondurable goods sector.
- **Inventories**: The decline in those manufacturers reporting increases *vis a vis* a year ago has been fairly impressive—from 43% last spring to 32% currently. Certainly, there's little indication of the inventory buildup that usually precedes a business recession.
- **New orders**: The drop in those expecting increases (from 74% last spring to 62% now) hardly spells disaster. Point to keep in mind: the majority still see gains—with only 7% actually anticipating declines.

The D & B survey has also introduced something new this time around—a regional breakdown. It shows a mixed picture. Specifically, the New England states continue to report declines in sales optimism—replacing the oil patch as the region with the least optimistic outlook.

On a rosier note, Duncan notes expectations for sales gains this quarter in the west north central, east south central, and west south central regions.

Business trends: A top exec. view

% of respondents vs. years ago.



source : Dun and Bradstreet

PROCUREMENT STATUS REPORT

Indexes reflect ample supplies

Still no sweat on the industrial purchasing front. There are a few items on the tight side, but the list is small. It's also likely to get smaller as warmer weather knocks natural gas and propane off the hard-to-get list. The only persistent problems seem to be limited to bearings, bleached paperboard, sodium chlorate, titanium dioxide, and alkalies.

More purchasing managers reporting faster than slower deliveries is another sign of continuing ease. In any event, the National Association of Purchasing Management (NAPM) supplier delivery index, which measures the gap, remains under the neutral 50 mark, despite some winter weather problems.

Backing this up is *PW's* leadtime index which has been holding at or under the neutral 50 mark for well over a year now. Implication: more leads are coming in than stretching out.

These ample supplies are having an impact on inventory strategy. Faster deliveries are enabling buyers to pare their stocks, further forcing the NAPM inventory index to its lowest level in over four years.

Also reassuring is the fact that more PMs are reporting price decreases than price increases. This has been the case now for eight straight months. What better sign of a buyers' market?

PMs might also want to take note of just-revised seasonal adjustment factors for the above and other NAPM procurement yardsticks. New Commerce Department figures suggest that price increases tend to reach their peak in January and April, that supplier deliveries problems peak in March, and that inventory increases are most likely to occur in February.

Conversely, prices tend to rise least in November and December, supplier delivery slowdowns are least bothersome in June, and inventory increases are least likely to occur in November, when nearly 8% fewer than normal are usually adding to their holdings.

R & D spending marks rise

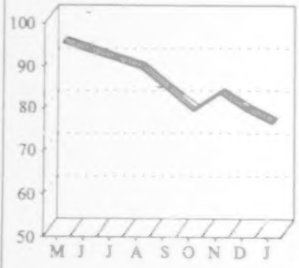
The 1990 research and development picture remains basically mixed.

On the plus side, overall spending in real terms should rise about 2.1% (4.8% in current-dollar terms, since prices are expected to rise 2.6%). But this still leaves a lot to be desired inasmuch as the average real advance over the past 10 years came to a somewhat more robust 3.1%

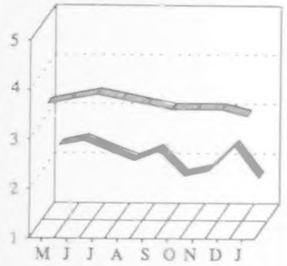
The new estimates from the Battelle Institute (Columbus, OH) also suggest major changes in emphasis—because of significant global shifts in both

Steel

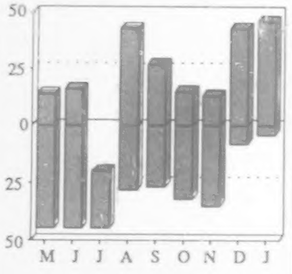
Operating rates



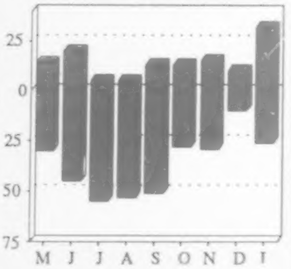
Inventories
(Months supply on hand)



Demand (STEEL SERVICE CENTERS)
(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

the political and economic environment. Taking off on this, Battelle president Dr. Douglas Olesen observes, "We expect there will be continuing reallocation and reevaluation—changes that offer both challenges and opportunities."

The international technology firm points out, however, that industry continues to support short-term R&D projects and is reacting to the pressure from foreign technological competition. On the other hand, long-term development seems to be taking a back seat.

While this short-term emphasis could have an adverse impact, Battelle feels there are also positives, namely the big trade imbalance and continuing efforts to correct it.

As for the actual 1990 numbers, from a source of funds perspective, industry's share comes to almost 49%, with most of the remaining support coming from Uncle Sam (47%). Minor contributions are split between academia (3%) and nonprofit organizations (1%).

Also worth noting: over the past few years, industry and government have switched roles as the primary funding source. Government played the major role before 1980, but in most years since then, industrial support has been dominant...and that trend is expected to continue in 1990.

As for who will do the R&D work, industry should account for over $100 billion in current dollar terms (72% of the total). Aerospace, as might be expected, will chew up the biggest dollar sums (over $24 billion), followed by electric machinery ($16.2 billion), nonelectrical machinery ($15 billion), automotive ($10.9 billion), and chemicals ($10.8 billion).

STEEL SCENE

Rise expected in steel orders

The 6% decline in overall steel shipments projected by most analysts for 1990 could turn out to be too gloomy.

The really near-term outlook seems to be improving. Forty-six percent of steel service centers responding to the latest Steel Service Center Institute (SSCI) survey see an increase in incoming orders over the next three months—the highest reading in several years. The fact that only 4% anticipate declines further serves to emphasize their basically upbeat feeling.

This view is backed by SSCI president, Andrew G. Sharkey, who observes, "Other than automotive, a broad cross section of manufacturing remains healthy—and that bodes well for service centers in the current quarter."

Buyers have also raised their steel procurement sights, but not nearly as much as distributors. The latest NAPM Steel Buyer survey shows more PMs anticipating increases than decreases over the next three months. The difference between the contending groups, however, is narrow (32% voting for boosts *versus* 26% for a falloff).

Whatever the buying pattern, price softness should continue to be the order of the day. Some 52% of responding service centers feel metal replacement costs will drop over the next six months—with the overwhelming majority putting the decline in the 2-5% range. This figure is far above levels prevailing through all of last year.

Looking at the other side of the coin, only 4% anticipate paying more for their steel over this period. That compares to the high of 43% who anticipated increases as recently as last March.

Even import competition may be on the rise, with 22% of queried distributors saying overseas mills are offering prices 6-10% under comparable domestic levels—the biggest such figure since November 1988.

And they report the same kind of trend for stainless. As of latest report, one out of ten noted 6-10% price breaks for this specialty steel—far above the figures prevailing over recent years.

Buyers also confirm a slight rise in foreign competition. The 38% who now say foreign steel is slightly cheaper tops the year-earlier reading by close to a 3:1

Import prices

(compared to domestic)

Steel buyers
ABOVE 41%
SAME 21%
SLIGHTLY BELOW 38%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 4%
SAME 74%
5-10% BELOW 22%
10-20% BELOW 0%
OVER 20% BELOW 0%

margin.

Another favorable sign for steel buyers: ready availability—with 90% of those queried anticipating problem-free steel procurement into early summer. That's the highest such reading in years, with only coated sheet mentioned by more than one purchasing manager as a possible bottleneck area.

Also encouraging is a dip in steel user inventories to the equivalent of 1.75 months' supply, off close to a week from levels prevailing early last year. This is consistent with industry statistics which show a 2.5-million-ton drop in user stocks over the past 12 months.

Service center inventories, on the other hand, remain relatively unchanged in terms of months' supply over the same period. But according to SSCI's Sharkey, tonnages are in pretty good balance with shipping levels.

Latest spot market prices

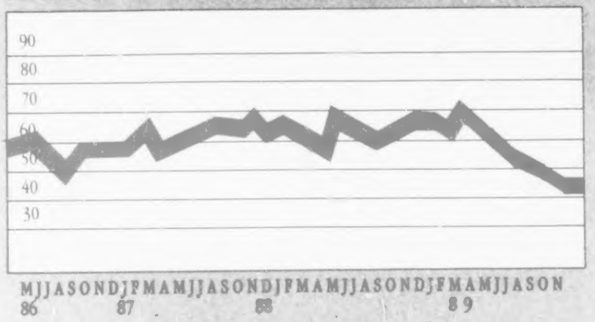
	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt., merchant quality	18.70	18.70	16.50
Steel, bars, Pitts., cwt.	18.70	18.70	16.50
Steel, bars, C.R., Pitts., cwt	23.95	23.95	19.45
Steel, plates, Pitts., cwt	23.25	23.25	23.25
Steel, plates, H.R., Pitts., cwt	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt	30.65	29.65	29.65
Steel, strip, C.R., Chi., cwt	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.650	.735	1.050
Antimony, N.Y., dealer, lb	.89	.81	1.00
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb	1.66	1.73	2.17
Brass, yellow, [sheet], lb	1.62	1.69	2.09
Cadmium, N.Y., dealer, lb.	5.05	5.25	8.35
Copper, electrolytic, wire bars, refd., lb.	1.03	1.10	1.50
Copper sheet, over 24 in., lb.	1.75	1.82	2.22
Lead, common, N.Y., lb.	.40	.38	.37
Magnesium, pig ingot, [99.8%], lb.	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl	295.00	290.00	310.00
Molybdenum, oxide, dealer, lb.	2.65	2.54	3.48
Nickel, cathode, dealer, lb.	2.90	3.80	8.30
Platinum, dealer, oz.	512.00	495.00	530.00
Silver, N.Y., oz.	5.24	5.29	5.94
Tin, N.Y., dealer, lb.	2.95	3.22	3.50
Zinc, Prime West, East St. Louis, lb.	.65	.68	.87
Zinc, die casting alloy, No. 3, lb.	.73	.76	.90
PAPER			
Uncoated book #3 offset, ton	940.00	940.00	1020.00
Watermarked bond, ton	1090.00	1095.00	1080.00
Gummed sealing tape, carton	18.85	19.18	18.58
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	835.00	835.00	730.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	440.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd	.282	.282	.283
Cotton drill, 1.85, 59", 68x49, N.Y., yd	1.24	1.24	1.18
Cotton middling, 1", N.Y., lb.	.624	.611	.529
Printcloth, 48", 80x80, N.Y., spot, yd	.50	.50	.50
Army duck, 37", 13 oz., yd	1.45	1.40	1.50
Blended printcloth, 64", 78x54, yd	.72	.80	.70
20s combed yarns	1.85	1.94	1.80
Wool 64s, Staple, lb	3.00	3.00	4.50

NAPM procurement trends

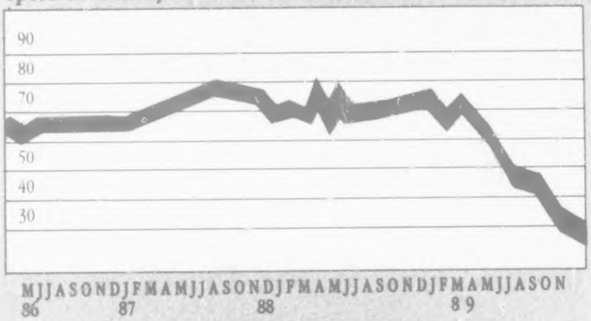
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

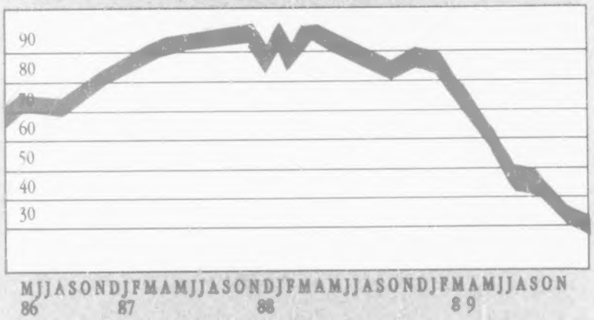
Inventories



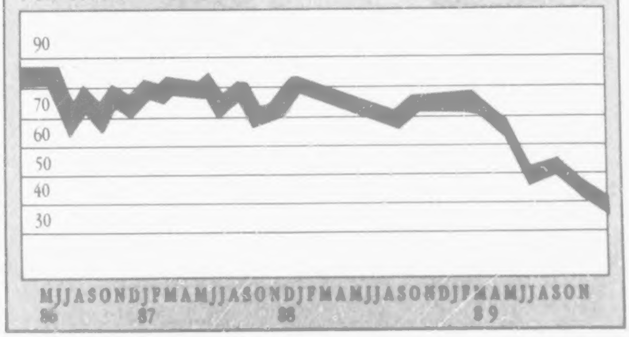
Speed of delivery



Prices



New orders

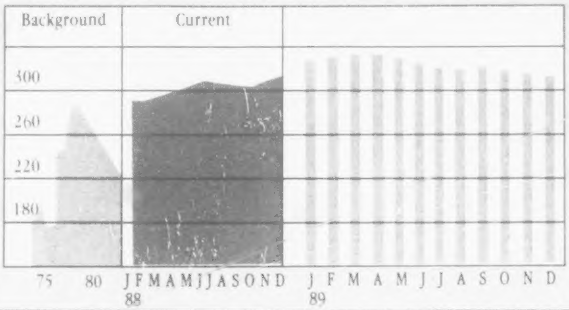


BUSINESS DATATRAK

Raw material price barometer

(Index 1967 = 100)

Last month 300.7
Month before 301.8
Year ago 324.7



This month's breakdown

Index: 1982 = 100

	Latest level (Dec.)	% change from: Month ago	% change from: Year ago
Bearings	125.7	0	4.6
Bolts, nuts, etc	114.8	0.3	6.2
Chemicals, inorganic	111.5	−0.5	5.6
Chemicals, organic	111.4	−0.1	−4.7
Concrete products	111.8	0.1	1.4
Corrugated cartons	112.5	−0.2	1.4
Cutting tools, small	112.5	0	3.7
Electric lamps (bulbs)	131.5	4.8	7.3
Electronic components	120.6	0.7	1.8
Fans and blowers	121.4	0.1	5.2
Foundry and forge products	115.1	−0.2	3.0
Fuel oil (residual)	52.0	5.7	30.0
Furniture, commercial	130.8	0.3	3.4
Gasoline	60.6	−2.4	9.2
Glass, flat	108.4	−0.4	−2.8
Glass containers	115.9	0	3.2
Gypsum products	109.0	−1.7	−4.3
Hand tools	129.5	0.2	4.6
Hand tools, power driven	117.7	0.1	2.8
Industrial furnaces	125.5	0.2	3.0
Integrating and measuring instruments	123.0	0.2	6.1
Internal combustion engines	116.3	−0.2	3.4
Lubricating oil	112.0	1.2	5.0
Lumber millwork	128.6	0.2	4.6
Material handling equipment	113.2	0	3.8
Metal containers	113.1	0.3	2.7
Metal mill shapes (nonferrous)	130.6	−2.8	−7.2
Metal tanks	111.5	−0.3	3.7
Motors and generators	130.6	0.5	5.1
Motor trucks	133.7	−0.3	2.7
Office and store equipment	110.5	0.3	1.7
Paperboard	139.6	−0.1	2.3
Paper boxes and shipping containers	131.3	0.1	3.6
Paper office supplies	121.7	0	2.0
Paint	121.4	0	5.9
Plastic resins	122.7	−3.7	12.4
Precision measuring tools	125.3	0	2.9
Pumps and compressors	116.3	0	4.4
Refractories	119.7	−0.3	3.7
Rubber belts and belting	116.3	−6.1	7.1
Scales and balances	107.7	0.3	0.9
Steel products	114.0	−0.2	1.5
Switchgear	120.4	0.6	4.9
Textiles, synthetic fibers	106.9	−0.4	7.0
Textiles, gray fabrics	117.5	0.9	2.2
Tires and tubes	97.2	0	2.0
Transformers and power regulators	118.4	−0.3	6.2
Welding equipment	123.6	−0.2	3.9
Wire and cable	142.4	−2.8	−4.0

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.35	.42	.36
Ammonia, anhydrous, tankcars, Gulf Coast, ton	86.00	86.00	125.00
Benzene, petroleum, tanks, Houston, gal.	1.40	1.35	1.87
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid [over 25%], tanks, lb.	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.133	.106	.106
Glycerine, synthetic, tanks, lb.	.845	.845	.760
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.42	.32	.60
Naphthalene, crude, tanks, lb.	.16	.16	.16
Phthalic anhydride, tanks, lb.	.33	.33	.41
Polyethylene resin, low density liner film grade (market place), lb.	.385	.360	.515
Polypropylene, homopolymer grade (market price), lb.	.365	.365	.475
Polystyrene, general purpose grade (market price), lb.	.465	.465	.590
Polyvinyl chloride, pipe grade (market price), lb.	.295	.305	.440
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.365	.350	.500
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	123.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	.95
Xylene, Gulf Coast, spot, barge, gal	1.05	78	N.A.
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	336.28	336.56	326.33
Lumber 2x2 pine, mbf, cl	332.58	330.68	311.06
Plywood, plyform, ¾", msf, cl	627.37	617.27	547.39
Plywood, ⅝", msf, cl	416.22	434.33	368.28
Cement, bulk, ton, tl	62.20	62.56	63.48
Sand, ton, cl	7.05	7.03	7.23
Ready-mix concrete, 3,000 psi/cu. yd.,	47.90	47.60	48.55
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	90.93	90.09	86.72
Reinforcing bars, whse base; per cwt	22.02	22.08	20.85
Asphalt paving AC-20	106.95	104.22	106.20
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	17.90	17.90	17.92
FUELS			
Crude oil (W. Tex Int Cush), bbl.	22.30	23.40	17.50
Diesel (reseller rack, Chi), gal.	.5110	.9000	.4775
Fuel oil No. 2 (N.Y.), gal.	.5675	.9650	.5150
Fuel oil No. 2 (Gulf spot), gal.	.5570	.8160	.4665
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	24.75	26.75	18.50
Gasoline (prem unlded NY), gal.	.6750	.7550	N.A.
Gasoline (reg unlded NY), gal.	.6050	.6735	.4825
Kerosene (reseller rack, Chi), gal.	.6210	.9550	.5575
Propane (Mt. Belvieu, Tex), gal.	.2750	.5500	.1950
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	100.00	95.00	122.00
Steel, No. 1 hvy., dlvd., Chi., ton	104.00	104.00	119.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	.915	1.000	1.12
Copper, No. 2, East, wholesale buy, dlvd., lb.	.820	.930	.995
Brass, red, East, wholesale buy, dlvd., lb.	.875	.960	1.080
Brass, yellow, East, wholesale buy, dlvd., lb.	.54	.57	.54
Alum., old sheet/cast, E., wholesale buy dlvd., lb.	.380	.425	.670
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.450	.500	.760
Zinc, old, East, wholesale buy, dlvd., lb.	.30	.30	.24
Lead, clean solids, East, wholesale buy, dlvd., lb.	.23	.23	.27
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	−20.00	−20.00	Nom.
Old white ledger, Chi., ton	75.00	75.00	75.00

[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

Price outlook:

Ten-year view is positive

Wharton Econometric Forecasting Associates (the WEFA Group) offers useful data in its new 10-year price and production forecasts.

Overall, the projections are quite positive (4.9% average annual industrial price increases and 2.6% average annual production gains). But such figures can be deceiving, inasmuch as the Bala Cynwyd, PA-based consulting firm, sees significant industry-by-industry variations.

• **Price:** Office and store machines are expected to drop by about 2% a year (see accompanying table). And increases in the metals area should be relatively modest: 3.2% for nonferrous metals and 4.0% for steel mill products.

Also on the relatively low side are projected price boosts for textile mill products (3.3%), paperboard containers (4.0%), industrial chemicals (3.2%), paints (3.5%), fertilizers (2.1%), metal containers (3.9%), and electronic components (3.1%).

On the other hand, most machinery products are expected to average out a little higher—generally in the 4-5% range. So are most transportation services. And there are a few areas where bigger-than-5% advances are seen—crude oil (8.8%), natural gas (7.6%), medical services (6.2%), electric utilities (5.8%), and business services (5.6%).

For those interested in some of the major government price indexes, the following estimated increases for the same 10-year period are given: GNP price deflator (4.4% a year), cost of living index (4.9%), and producer price index for all commodities (3.7%).

• **Demand:** Generally speaking, biggest average annual real gains should be centered in industries with big export potential or high-tech orientations. Those tied into the capital spending sector should also fare somewhat better than normal.

A few of the big average annual real growth rates anticipated over this 10-year period: electronic components (4.3%), office and stores machines (4.1%), metalworking machinery (3.6%), and photographic goods (3.6%). All of these, incidentally, are well above the already-noted all-industry 2.6% average advances contemplated over the same period.

PW

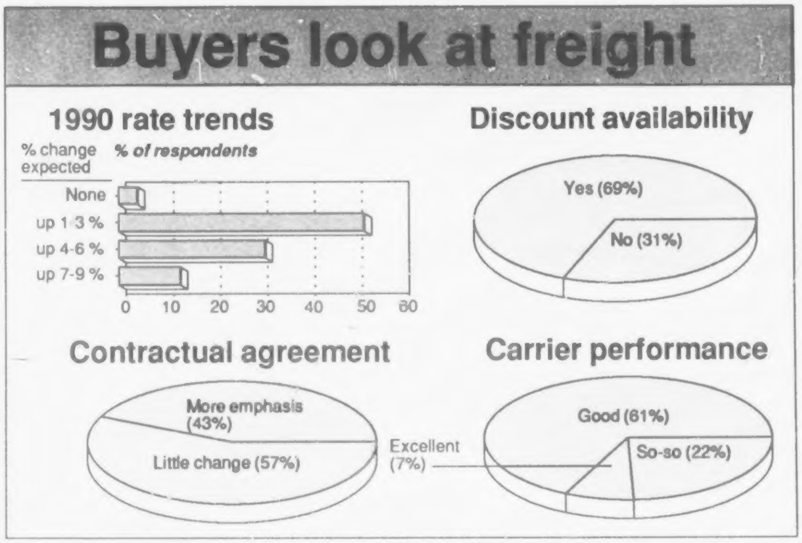
Selected long-term inflation and growth rates (1989 - 1999)

	Average annual % change	
Industry	**Price**	**Demand**
Copper	3.4	0.6
Crude oil	8.7	– 2.6
Natural gas	7.6	– 1.1
Contract construction (residential)	4.5	3.0
Contract construction (non-residential)	4.2	3.3
Knitting mills	3.2	1.2
Floor covering mills	3.3	0.8
Broadwoven & other textiles	3.3	1.6
Pulp & paperboard	3.9	2.9
Paperboard container	4.0	2.2
Industrial chemicals	3.2	3.0
Paints	3.5	2.4
Fertilizers	2.1	1.3
Tires & tubes	3.6	0.3
Glass containers	4.7	2.3
Steel mill products	4.0	0.1
Nonferrous metals	3.2	2.5
Metal containers	3.9	2.6
Engines & turbines	4.6	2.4
Farm machinery	3.9	1.3
Construction, mining & material handling	4.6	1.5
Metalworking machinery	4.4	3.6
General industry machinery	3.9	2.7
Office & store machines	– 2.1	4.1
Electrical transmission & distribution equipment	4.0	2.7
Household appliances	3.5	1.4
Communication equipment	4.5	2.5
Electronic components	3.1	4.3
Motor vehicles	4.3	0.6
Aircraft	4.4	3.3
Railroad equipment	4.2	1.9
Scientific & engineering instruction	4.2	3.2
Photographic goods	4.4	3.6
Railroad transportation	4.8	2.3
Motor freight & warehousing	4.9	2.4
Water transportation	4.3	2.0
Air transportation	4.8	2.4
Electric utilities	5.8	2.0
Gas utilities	5.0	0.1
Medical services	6.2	5.3
Financial, insurance & real estate services	5.7	2.6
Business services	5.6	2.5

Source: The WEFA Group

SURVEY OF THE MONTH

Slow demand will hold down transport costs


Buyers look at freight

Freight costs are not expected to pose too much of a problem this year.

True, there have been some fair-sized increases in recent weeks—most notably in the trucking sector, where fuel-related pass-alongs and a 5.5% general hike have hit many shippers. But less-than-sensational demand could well water down those increases as the year wears on.

In any case, most freight buyers responding to a new nationwide *Purchasing World* survey are betting on a pretty good year as far as containing transportation costs is concerned. All in all, the average advance is put at around 3.5%.

That's not all that much above the 3.0% boost being projected by Wharton Econometrics (see additional transportation story in this issue). It's also not that much different than the 3.0% figure projected a year ago, when a similar question was posed to *PW* readers.

The basically steady trend is further substantiated by the fact that those looking for bigger-than-1989 increases are almost being offset by the number anticipating smaller ones. The actual figures: 32% accelerating gains; 27% decelerating gains, and the remaining 41% looking for about the same rate of advance as last year.

Also on the encouraging side: the considerable discounting that still seems to be going on. More than two out of three respondents, for example, still report paying less than posted rates—with the off-list deals most prevalent in the trucking area.

Sure, a few of those queried said discounts aren't quite as big as they were a year ago. But by and large, the deals being offered are still quite impressive—with the majority of respondents using trucks saying they are still able to get anywhere from 30-50% off official schedules.

Still another price rise inhibitor could be the relatively lackluster demand pattern seen by transportation buyers for the current year—something which they feel should help keep the competitive pressure on carriers. And most freight analysts would seem to agree—noting that if trucking discounts persisted in a good 1989, they are almost sure to be a factor in a not-so-good 1990.

Moreover, any truck weakness should also slow down any rail rate boosts. As of now, the railroads seem to be selective rather than across the board in announcing new hikes—and this could well continue through the year.

Also likely to brake rail rate hikes is the ICC's recent finding that several carriers are now "revenue adequate." Implication: railroads can no longer raise rates up to 4% without ICC review.

Even air carriers are likely to be impacted by slower demand gains. Other things being equal, a softer economy suggests more deferred deliveries—with shippers increasingly unwilling to pay premium prices for overnight delivery.

Subsiding fuel costs—after the late 1989 runup—could also remove the excuses for new hikes. As fuel moves back closer to 1989's levels (as now seems almost certain), some of the recent increases in truck and air tariffs may be increasingly questioned by shippers.

These same shippers, incidentally, continue to put more emphasis on contractual agreements in their efforts to keep costs down. More than two out of five, for example, told *PW* this was one of their 1990 goals—and if attained, it's a task that should further limit near-term rate hikes.

A fair number of respondents (17% to be exact) also utilize specialists (brokers, shipping associations, agents, etc.). The saving, they add, can sometimes run upwards of 15%.

On another rosy note: nearly four out of five rate carrier service as good or excellent. That's pretty much unchanged from last summer, when a similar question was posed by *PW* survey takers.

In any event, not one rates service as poor. As one buying executive put it, "There's plenty of competition around. As such, we can eliminate problem carriers almost immediately, with little or no impact on either incoming or outgoing orders."

PW

Crystal Ball contest:

Making a business of forecasting

by Ron Stevens, managing editor

Our Crystal Ball contest was won this year by a purchasing specialist whose major job emphasis is as an economist—who's been closing in on the top spot for several years. When you make a business of forecasting, it has to pay off.

Eddie Meredith, Jr.—our 1989 winner—has been in his slot at General Dynamics Electric Boat Division (Groton, CT) for 17 years and, although he's not a member of the National Association of Purchasing Management, he's earned his stripes in the profession. Meredith said, when reached by telephone and told he'd won, that he was "shocked—I didn't expect it."

He shouldn't have been all that surprised, after all he'd placed fourth last year (third runnerup), and in the top 20 the year before.

What does Meredith use as sources? "I read a volume of stuff," he said, including *Business Week*, ***Purchasing World***, *the Journal of Commerce*, *the Wall Street Journal*, *Metals Week*, and *American Metals Market*. He said he also follows the Bureau of Labor stats, and does all this on a monthly basis. It's his job to prepare commodity forecasts for his division, doing price and cost analysis.

Although the electric boat division has its own library, what Meredith reads comes to his office or *through* the library. He explains his methodology further, "I have strong leanings toward cause and effect relationships, sort of like a driver—you have to plan from what you see and make assumptions from that." He doesn't believe in using a lot of gut feeling for prediction purposes.

He factors in the fact that we have a Republican president with conservative leanings, somewhat counterbalanced by a Democratic Congress with liberal leanings. The *Wall Street Journal* is his source for political information.

Eddie Meredith, Jr.

It's important to realize, too, that Meredith's company builds submarines, and that materials are bought for his products 3-5 years ahead of time. "It's my duty to forecast this," he said, "and to keep track of strategic materials. I even read reports on mine activity."

Meredith also is looking for a third piece of good luck—his 10-year-old granddaughter recently won first place in the Cities of America finals in Orlando, FL; now he's won the Crystal Ball competition and, as he points out, "They say good things happen in threes!"

What gave our entrants trouble this year? Capital spending was a problem (it was last year, too). This year's number, 10.3% in current dollars, was just off from last year's 10.4%—and many of our entrants who have done well in years past were forecasting in the 6.5 range (which, by the way, is the current forecast for 1990)—our forecasters weren't expecting such a healthy number. It's possible that people underestimated American industries' resolve to progress, and it's possible that the entrants are not reading the *current dollar* stipulation. ***PW*** has decided to remedy that situation, and next year will change to constant dollars in this category, since the government has just started giving a deflated number here.

Possibly linked to this underestimation is the fact that factory operating rates were consistently *overestimated*. This suggests that purchasing pros figured industry would work existing plants harder rather than add new capacity. We feel that our contest results show that buyers are becoming increasingly more sophisticated in following prices, since in the first four categories (real GNP growth, GNP implicit price deflator, industrial producer price index and consumer price index) quite a few people hit the numbers in one or the other of these areas exactly. The other encouraging issue is that the same names are in the top 100 finishers each year. These forecasters, even if they're not right on target, are so consistently close that it's evident these people really know what they're doing.

Polaroid, for instance, had 22 of its people place in the top 100, a feat accomplished almost every year. That company obviously makes a business of forecasting: Warren Norquist, worldwide director of purchasing and materials for the Massachusetts-based company, has regular bi-weekly meetings for his staff, during which one member of the group updates the others on particular economic conditions and commodities the company buys. Polaroid's purchasing department was also featured in a *New York Times* article late last year.

The winning numbers:

Percent change, 1989 over 1988 (to nearest 0.1)	1986 actual	1987 actual	1988 actual	Your 1989 forecast
Real GNP growth—Commerce Dept.	2.5%	2.9%	3.8%	**2.9%**
GNP implicit price deflator—Commerce Dept.	2.7%	3.0%	3.4%	**4.1%**
Industrial producer price index—BLS (except farm products, food, feed)	−3.6%	2.7%	3.5%	**5.0%**
Consumer price index—Bureau of Labor Statistics	1.9%	3.7%	4.1%	**4.8%**
Capital spending (current—dollars)—Commerce Dept.	−1.7%	2.9%	10.4%	**10.3%**
Industrial production index—Federal Reserve Board	1.1%	3.8%	5.7%	**3.3%**
Factory operating rates—Federal Reserve Board (NOTE: Stated as arithmetic difference in rates, NOT as percent change.)	−1.0	1.3	2.6	**0.5%**

PW's leading forecasters:

And here are the top finishers, with company affiliations and scores (deviation from the total):

Eddie Meredith, Jr., General Dynamics Electric Boat Div.—3.5
Robert Bretz, Pitney Bowes Inc.—3.8
Donald Shymanski, Reliance Electric—4.2
Michael Berry, GM Delco Products—4.3
Tom Hoffman, C.P.M., Regal Ware Inc.—4.4
James Maher, Jr., Hale Fire Pump Co.—4.4

Larry Martin, Sundstrand—4.5
Stephen Berry, Polaroid Corp.—4.7
Ned Diefenderfer, Computer Technology Corp.—4.8
Richard Cheri, Carpenter Technology—4.9
Walter Sesholtz, Hartz Mountain Corp.—4.9

Thomas Huey, SEG—5.0
Joseph Barmann, C.P.M., Society Corp.—5.3
Gurney Sampson, Lockheed Missiles + Space—5.3
Bill Fox, C.P.M., Argo Products—5.3
Keith Edwards, Argus International—5.4
P.Thomas Pfeffer, Browning Mfg. Div.—5.4
Paul Krafft, George Banta Co.—5.4

Sylvia Hill, GM Delco Prod.—5.5
Stathis Katsaros, The BOC Group—5.5
Richard Kroeger, GM Delco Prod.—5.6
J. Larden, Polaroid Corp.—5.6
Wayne Balsiger, Paccar—5.6

Lawrence Gibs, Polaroid Corp.—5.7
V. A. Taktajian, Shell Development Co.—5.8
Daniel Pilling, Magnavox Elect. Syst.—5.9
Philip Wheeler, Synergistics Inc.—5.9
James Brady, Polaroid Corp.—5.9

Larry Reaves, Bethlehem Steel—6.1
James Tomaswick, Polaroid Corp.—6.1
Jackie Jacoby, Microchip Technology—6.1
Melvin Miller, York Casket Co.—6.2
Gordon Lane, Shell Oil Co.—6.2
Daniel Murphy, Jr., Polaroid Corp.—6.2
Gordon Herman, Kent Community Hospital—6.2

M.L. Helmsmoortel, Polaroid Corp.—6.3
Randall Boitz, Turtle Wax—6.3
Eric Nicholls, NGK Metals Corp.—6.3
William Stimmell, Polaroid Corp.—6.3
Gene Kanter, Polaroid Corp.—6.3
C. Dale Magnuson, Reading Tube Corp.—6.3
Carl Dirkse, S.C. Johnson & Son—6.3

Larry Rudy, Polaroid Corp.—6.4
Fred Hunger, Elastimold—6.4
Jim Peplow, CMI Corp.—6.4
Walter Ekiert, M.J. Maguth & Son—6.4
L. R. Lewis, Jr., American Cyanamid—6.5
Penn Dixit, Automatic Data Proc.—6.5
Ted Fooskas, Davidson Fabricating—6.5

Peter Kendall, Allied Signal—6.6
Robert Merrill, Dielectrics Industries—6.6
Bryan Biechler, Black & Decker—6.7
Brian Thomas, Square D Co.—6.8
Frances Nerney, Edward Parkinson Co.—6.8
Samuel Coccia, Jr., Hubbell-Bell Inc.—6.8
Mark Groth, Philip Morris U.S.A.—6.8
Walter Byron, Polaroid Corp.—6.8
William Herro, SSI Technologies, Inc.—6.8

Luther Suber, Black &

Decker—6.9
Gordon Nicholson, Polaroid Corp.—6.9
E. Richard Rosenblatt, Polaroid Corp.—6.9
T.D. Hynds, Shell Development Co.—6.9
Don Ritucci, Polaroid Corp.—6.9

David Howard, Capital Prod. Co.—7.0
Joel Fleming, International Paper—7.0
Sarmento Silva, Hazen Paper—7.0
J.J. Marasia, Tennessee Eastman Co.—7.0
Richard Sawyer, Polaroid Corp.—7.0
G. Michael Gagnac, Jr., Polaroid Corp.—7.0
Albert Reddington, Polaroid Corp.—7.0
Janet Hillyer, Univ. of Alaska—7.0
Richard Fret, Ford Motor Co.—7.0

Richard Hoth, Ertl Co.—7.1
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Paul Boesiger, Ore-Ida Foods—7.1
Johnnie Couey, Northern Telecom—7.1
Phil Fowler, Southwestern Bell—7.1
Gary Edick, Fastener Services Inc.—7.1
Pat Bayers, AT&T—7.1
Eugene Johnson, Western Associates—7.1
John Hubbard, Polaroid Corp.—7.1
Ralph Benson, Bobst Group Inc.—7.1
James Loftus, Polaroid Corp.—7.1

Douglas Pepper, Lightolier—7.2
Carlos Peredo, General Motors—7.2
Mike Whiting, NAMIC—7.3
Ted Baker, American Design & Eng.—7.4
John Pakan, Schenectady Chemicals—7.4
Richard Hoyer, Polaroid Corp.—7.4

Leon Northcut, Cumberland Corp.—7.5
Joyce Anneken, American Red Cross—7.5
Gary Rogers, Vitarel Microelectronics—7.5
John May, McWane Cast Iron Pipe—7.5
Marc Poliferoni, Straubing & Rubin—7.5
Warren Norquist, Polaroid Corp.—7.5
Robert Kasabian, Polaroid Corp.—7.5

William Brittingham, Jr., Olin Hunt Prod.—7.6
J.M. Stephenson, M&T Chemicals Inc.—7.6
James Frazer, A.P. Green Ind.—7.6
C. Schmidlapp, Medtech Labs—7.6

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Protecting the workforce • What to expect from computers
Mobay's supplier audit system • Murray on battle of forms

THE BUYER'S MAGAZINE *APRIL 1990*

Packaging outlook:
Available at good prices

Tough inserts stack up

Buying for the OFFICE

CONTENTS

April 1990, Vol. 34, No. 4

COVER STORY

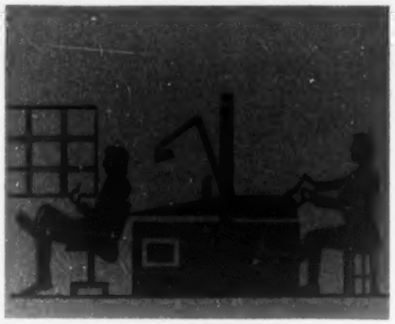
36 Tough inserts stack up for T-Chem Products
Lighter weight and greater stacking strength make business better for a household products producer.

40 Packaging outlook: availability at good prices
Executive editor Bob Reichard reports on favorable conditions—for buyers—in the packaging area.

FEATURES

26 Insiders say the job will get easier
Three office supplies vendors discuss trends in buying for the office, and how they are responding to them.

31 Buyers' market to continue
A recent study by the Computer and Business Equipment Manufacturers Association shows that availability of office equipment will be good, and you'll get more work for your dollar, too.



PurchasingWorld interviews vendors for the latest office supply buying trends. Page 26

Mobay's Stephen Handzo explains how to set up an effective supplier audit team. Page 54

FEATURES

44 Protecting the workforce
A number of measures are being taken to protect employees in hazardous environments.

48 Computer assisted purchasing
Timothy Corman of Ernst & Young explains what buyers look for in a purchasing software program.

54 Develop a consistent supplier audit
Mobay's head of quality assurance, C. Stephen Handzo, describes the company's approach to successful supplier auditing.

58 Versatility marks purchasing software
Bellwether Software provides a versatile software system for today's purchasing pros.

62 Earning respect through communication
How does a purchaser *earn* respect? Editorial assistant Nan Webb tracked down a "No respect" survey respondent to get some practical answers.

DEPARTMENTS

3 **PW Pointers**

4 **Editorial**

6 **Letters**
On earning respect

8 **Killen: Inside purchasing**
Check your math . . . a management issue . . . what's reciprocity?

11 **PW Predicts**

18 **Business Datatrak**

57 **Transportation**
False sense of security

60 **Negotiations**
No bed of roses: buying for R & D

70 **Calendar**

76 **Purchasing and the law**
Battle of the forms

PurchasingWorld

PW POINTERS

Survey profiles the "typical" meeting

The typical meeting in corporate America is a staff meeting held in a company conference room for just under two hours, indicates a survey conducted by the Annenberg School of Communications at the University of Southern California. According to the survey, the typical meeting begins at 11 a.m., has no written agenda distributed in advance and is attended by nine people—usually two managers, four coworkers, two subordinates, and one outsider. Most or all those attending participate and handouts are used.

Four steps to negotiated air fares

If your company has significant air travel volume you can negotiate reduced airfares or a waiver of restrictions, say the consultants at Day Partnership Inc., Oakbrook, IL. Here's how: determine your dollar volume and/or number of trips you take between specific cities, determine what share of your air travel is on specific airlines, determine what airlines you use most frequently in terms of dollars spent or number of trips, and determine the capabilities of your travel agency to negotiate with the airlines. Airlines are more than ready, according to the consultants, to negotiate when increased market share will result.

Get PMs talking to inventory managers

Integrating purchasing and inventory management can reduce the total cost of procurement, says the management consulting firm of Temple, Barker & Sloane, Lexington, MA. Traditional purchasing managers want to keep unit costs low by maintaining high-volume orders. In contrast, inventory managers want low-volume orders in order to generate high turnover and maximize return on investment. The consulting firm says that integration can be as simple as increasing communication and cooperation without making any organizational changes.

Briefing service sends timely news

Western Union Corporation has introduced the Executive Briefing Service™ to automatically deliver business news and timely information on individually selected topics to a customer's FAX or electronic mailbox. The new service is customized to gather strategic business news from thousands of financial and business press sources, according to each user's individual needs. Subscriber tells the service which topics to monitor, e.g., products, industries, and companies. The information is then transmitted to the subscriber on a weekly basis. *Western Union News Bureau, One Lake St., Upper Saddle River, N.J. 07458* **Circle 48**

Exercise relieves VDT operator stress

Operator stress and strain in today's VDT intensive environment is becoming a serious management problem. Simple, at-the-desk exercises can help relieve that stress, suggests Hamilton Sorter Co. Fairfield, OH.

It has developed a VDT User's Checklist which provides examples of proper positioning for the VDT screen, keyboard, and chair and includes a demonstration list of exercises designed to relieve strain in various parts of the body. The company also has an application/problem solving guide which can help you increase office productivity, better utilize floor space, or just improve aesthetics.

The furniture systems specialist is offering both booklets free; write: Jim Weisberg, Hamilton Sorter Co., 3158 Production Dr., Fairfield, OH 45014, and ask for the "VDT Checklist" and the "Creative Solutions for the Office Environment" booklets.

PurchasingWorld

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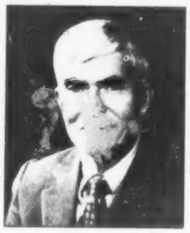
PW PREDICTS

Price spurt was seasonal

The early 1990 spurt in prices should be taken with a grain of salt.

Part of it represents little more than the impact of a frigid December, which temporarily impacted on the supply of a wide range of goods; another part has to be regarded as seasonal. Historically, many suppliers use the beginning of the year as the time to post price increases—only to see them fade before spring. And last but not least, there was last fall's temporary run up in oil prices.



A much better grass roots evaluation can be gleaned from buyers responding to the latest National Association of Purchasing Managers Business Survey Report. Their replies (summarized in a seasonally adjusted price index) show declines far outpacing increases for nine consecutive months.

Result: this seasonally adjusted yardstick is now showing nearly eight percentage points under the neutral 50 mark (where increases and decreases balance each other out). Reported as being lower over the latest month were aluminum, aluminum products, brass, copper, nickel, steel, steel scrap, stainless steel, zinc, corrugated boxes, printing paper, acetic acid, benzene, chlorine, ethylene glycol and ethylene derivatives, plastic resins, rubber, and a host of energy products.

Even the widely monitored industrial producer price index, which shot up early this year, suggests underlying price restraint. In any case, the government barometer has advanced only at a 3% annual rate over the past three months, once the volatile energy and food components are removed. That's a full percentage point under the increase of the previous three months.

All this has prompted the Fed's Alan Greenspan to comment that there is little evidence of underlying price inflation these days—certainly not enough to have any big upward impact on import tags. And even if it should, strong domestic and foreign competition for the U.S. market will keep things in bounds.

Then, too, the currencies involved in any dollar reevaluation have to be considered. More to the point, the dollar has been quite strong against most Asian currencies to the point that these nations are now the price leaders in many domestic markets. Upshot: only in the extremely unlikely event that these far Eastern currencies appreciate, would import prices rise significantly.

To sum up, the likelihood of zero inflation (now being bandied about) is still nowhere in sight. But odds do seem to favor continuing low inflation rates for industrial products through the year. Wharton Econometrics, for example, sees the overall industrial producer price index rising only 2.1% in 1990—less than half last year's big energy-driven jump.

Moreover, the relatively low, and in most cases decelerating, rates of gain are likely to be fairly widespread. Some of the typical increases (average 1990 *versus* average 1989) seen for some of the more important product categories: textiles and apparel (3.1%), refined petroleum products (2.4%), chemicals (−2.4%), rubber and plastics (−0.9%), lumber and wood (5.6%), pulp and paper (2.5%), nonmetallic minerals (2.3%), and transportation equipment (3.5%).

Moderation is also the order of the day when prices are viewed from a stage of processing vantage point. Crude materials, for example, are expected to show little change, intermediate materials a 1% advance, and capital equipment a 2.9% rise. But even the latter isn't bad when compared to last year's 3.8% increase.

The longer-term prognosis is upbeat, too. Wharton puts the overall industrial producer price index rise at 2.9% in 1991 (*versus* 2.1% this year). And even in 1992, when growth is expected to accelerate, the price increase is put at around 4%.

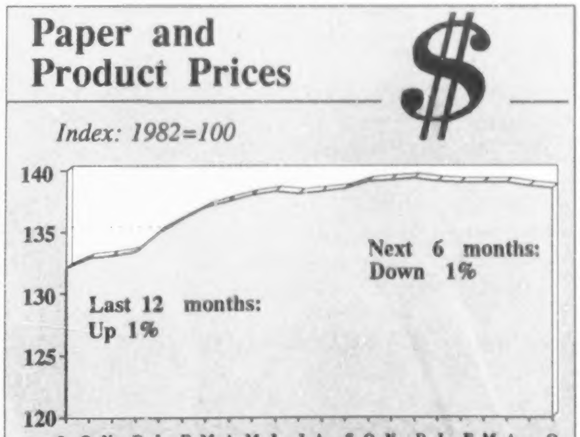
Paper prices drift down

CURRENT SITUATION: The sluggishness of 1989 is spilling over into early 1990. In a nutshell, the industry is facing downward drifting operating rates, soft demand, weak profit margins, and substantial price weakness. Unbleached kraft linerboard quotes (listed at $410/ton) are being discounted to $385/ton. **And end-product corrugated is also beginning to soften.** Other areas of easiness include white papers (both uncoated and coated), and market pulp. **One product bucking the trend: coated boxboard.**

DEMAND: Just so-so GNP activity will limit 1990 paper and board consumption gains to around 1.5% (though a reduction in imports and an increase in exports could push the production advance nearer to 2.5%). Corrugated box shipments will also show only a 1.5% gain, and under the 3.4% and 1.8% advances of 1988 and 1989, respectively. **Generally speaking, the second half should be stronger than the first half.**

SUPPLY: Excesses will persist for some time as new production potential exceeds output. The American Paper Institute, for example, sees capacity rising 3.1% this year, with even bigger 3.7% and 3.3% boosts projected for 1991-92, respectively. Upshot: average annual gains of 3.4% over the next three years—a full percentage point over the estimated demand gains.

PRICE OUTLOOK: Further erosion seems likely as market imbalances persist. About a 2-3% decline is seen from now to year end, but some lines could be off a lot more than that. On an average basis (1990 *vs.* 1989), taking into account recent sharp declines, the drop could be quite substantial—as much as 10% in containerboard, market pulp, and uncoated free sheet. Coated papers (also calculated on a year-over-year basis) could be off as much as 5%. **And further declines are possible next year**—particularly in the market pulp and coated free sheet sectors.



Low demand softens steel

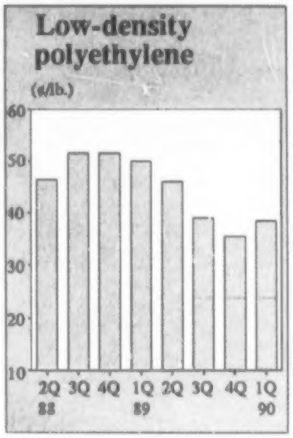
Price weakness persists with a beginning-of-year 3% increase in sheet products washing out, and no bounce-back anticipated. The composite price is expected to average out at only $520/ton this year—a bit under the $534/ton peak hit last summer. Low demand is behind the softness. This year's total shipments, for example, look to drop about four million tons (to only about 79-80 million)—a figure that will keep the industry operating rate down in the 81% range (some four percentage points under last year's average).

Short-term price of copper rises

The red metal has rallied from its winter low by adding more than 15¢/lb. onto its price since mid-January. Behind the run-up: an improvement in short-term fundamentals. Longer term, however, the prognosis is still for relatively easy prices. The market is expected to gradually move into oversupply as more production reaches the market over the year. Result: prices will again head down—with the overall average for the year likely to drop into the 85-95¢/lb. range—well below the $1.30/lb. 1989 average.

Polyethylene is on the rise

Another round of price hikes is beginning to take shape—with the industry pushing for a 3¢/lb. boost in high- and low-density types. That's over and above recent 39-41¢/lb. levels. But whether these increases stick is questionable. For one, ethylene feedstock tags are expected to drop. Then there's excess capacity—particularly in LDPE where operating rates, this year, are expected to hover in the low 83% range.



High integrated circuit prices

Dynamic RAMs may be a bargain. But prices in other areas are edging up—with the average selling price for all ICs expected to reach $1.44 this year (*versus* $1.40 two years ago). And by 1992, the price could jump all the way to $1.61. The new estimates by Dataquest are basically due to technology advances that permit increased productivity. So it's not all that bad. Put another way—while tags are up, the buyer should continue to get a lot more for his dollar. Another Dataquest projection: the crossover point for the price-per-bit curves of 1-Mbit and 4Mbit DRAMs will occur as early as this fall.

PW PREDICTS

Energy stays under control

Energy costs should remain under control in 1990 and in 1991, according to a new Department of Energy projection, which sees fractional to only moderately higher tags for most key products over this period.

The new forecasts are based on the assumption that imported crude oil quotes will average out near $18/barrel, fractionally below the $18.75/barrel peak of last year. Another hold-the-price-line factor could be relatively small demand gains, with average energy consumption rising only 1.3% this year and 1.7% in 1991.

If you zero in on oil usage, the gains are even smaller than that: practically no demand change this year and only about a 1% boost in 1991. On the other hand, electricity use gains should accelerate (to as much as 3.2% a year *versus* 2.0% in 1989).

Based on that, here's how prices seem to be shaping up in the various energy sectors:

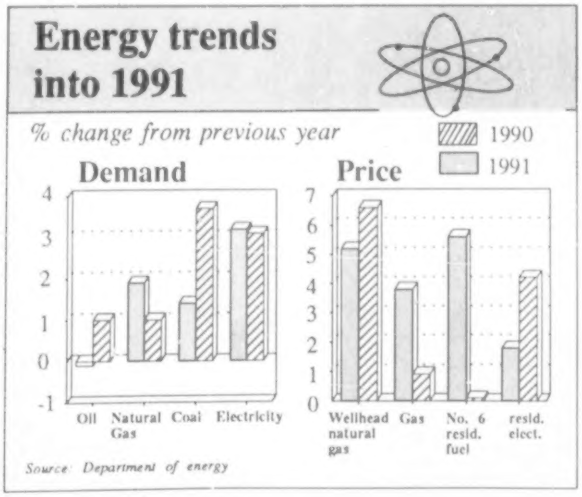
Gasoline: pump tags should rise a few cents/year—reflecting 1) the near-$2/barrel boost in crude over the past year, and 2) higher refiner and tax costs.

No. 6 residual oil: some seasonal declines from the $18.55/barrel first quarter 1990 high are anticipated—perhaps to around $16/barrel by the second quarter. Next winter (assuming normal weather) will see some bounce-back—but to only around $18/barrel.

Natural gas: wellhead increases over the next two years (5.2% and 6.6%) reflect some increase in demand and somewhat better market balance. Don't expect any big spurt as competing oil acts as a price-rise inhibitor.

Coal: ample supplies, plus the recent Pittston strike settlement, should keep a lid on prices. Utility grades should rise about 2% this year, and only at a slightly higher 3.4% pace in 1991.

Electricity: price increases will be quite moderate this year (1.8%, residential basis), though sharp seasonal swings are again seen. But some acceleration is likely next year, as recent boosts in fossil fuel costs are passed along.



Source: Department of energy

New trend in buying plastic

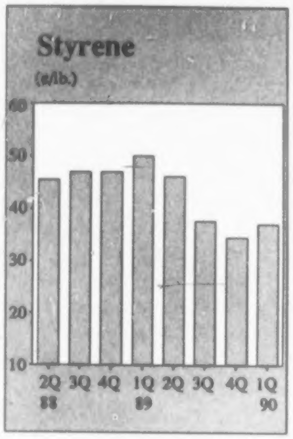
Nationwide networks may be the wave of the future. A new Kline & Co. report sees this trend as beneficial—leading to improved efficiency and versatility. There are big pluses for buyers, too—namely convenience, one-stop shipping, flexible delivery, mixed material shipments, expedient service, and competitive pricing. Another Kline prediction: PMs will be buying 11-12% of their total supply from these middle men by 1994—more than double the 5% share of last year.

Zinc takes bullish turn

The market has taken a bullish turn after a 10-month slide which ended early this year. Current prices are up near 70¢/lb.—5¢/lb. more than in early February. To be sure, there's ample metal to go around. But production problems, such as the temporary closing of a British Columbia plant and start-up problems in a new Alaskan facility, are having an impact. Demand remains soft, however, reflecting poor sales in the auto and die cast industries. Indeed, if demand doesn't pick up, prices could again begin to ease.

Styrene supply to increase

The recent run-up (from 33.5¢/lb. last fall to 36.5-38.5¢/lb. currently) may be about over. Reason: planned increases in production and capacity. The latter should rise to 9.23 billion lb.—up 8% from last year. This, in turn, suggests a drop in operating rates to near 93% (down four percentage points from last year.) This, plus an increase in imports, means increasing supplies and perhaps price slippage to near 32¢/lb. by the third quarter.



Hike proposed in postal rates

The record 19% average increase proposed for next February reflects lack of progress in automating Postal Service operations. But whatever the reason, be prepared to pay 30¢ for a first-class stamp, $9.75 for Express Mail and 17% more, on average, for third-class mail. The basic Parcel Post rate moves up 14¢ (to $1.57). The boost in third-class mail is expected to accelerate a shift away from this mode toward alternate delivery services, including privately owned mailing operations.

PW PREDICTS

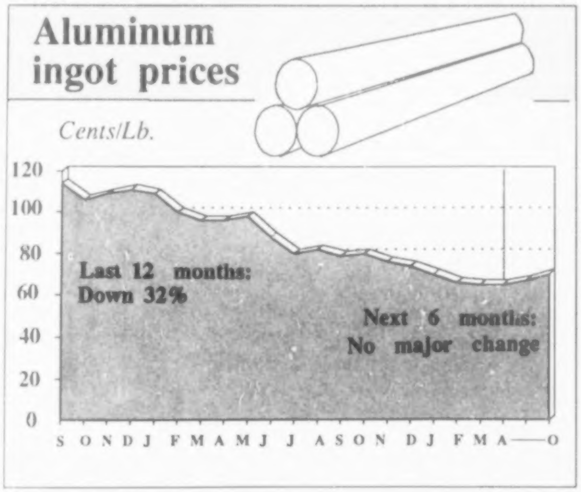
Aluminum under pressure

CURRENT SITUATION: Relatively disappointing demand, coupled with nearly full capacity production, is helping to put downward pressure on prices. Bellwether ingot is now hovering in the mid-60s range, far from the $1/lb.-plus levels of late 1988-early 1989. Flat-rolled products have also softened substantially. In sheet, transaction quotes have dropped about 30% from 1988-89 peaks as seven separate 5% discounts are offered. **Weakness is said to be most pronounced in common alloy sheet.**

DEMAND: The prognosis is for basically a flat tonnage year—primarily because of expected poor performance by the big transportation and construction markets. In any case, **the industry will be hard pressed to top last year's 17.25 billion-pound shipment rate.** One bright spot is beverage cans, where sales should surpass 86 million units in 1990 (up 4% from last year). Long-term growth is put at approximately 2% a year. Packaging will continue to lead this advance, though car use should also grow from 157 lb./vehicle last year to near 200 lb. by the 1995 model year.

SUPPLY: No problems are anticipated—as North American producers continue to operate at near-full-capacity levels. Add in strong foreign production—and Western world supplies (output plus net imports from the East bloc) should exceed demand. Upshot: **inventories are expected to rise for the third consecutive year, though any excess is expected to be quite modest.** The long-term supply situation also points to a tendency toward balance rather than any huge metal glut.

PRICE OUTLOOK: Ingot is probably down near its floor. But the basically bearish fundamentals (including still-all-out production) would seem to rule out any meaningful near-term rally. Also indicative of a competitive market is Alcan's decision to shelve its transaction price method which involved early posting of the next month's ingot and extrusion billet price level.



Nickel demand, supply balance

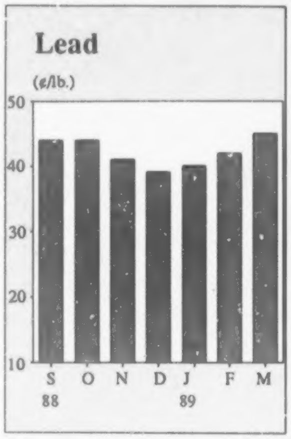
Prices are moving up as major producers announce production cuts. Another bullish factor is an increase in stainless orders—both here and in Europe. Prices have advanced 75¢/lb. since the beginning of February. And the metal is likely to hold onto its gains as supply and demand remain in balance. Thus, virtually all of the 1.44 billion lb. of metal expected to be produced this year (1.42 billion lb. to be exact) is projected to be consumed.

Machinery tags show softening

Lackluster demand is putting a lid on capital goods prices. Overall machinery and equipment tags, for example, are expected to rise only 2.5% this year—*versus* 3.6% in 1989. Machine tool makers, in particular, should find it hard to pass along hikes as orders lag year-ago levels. Softness is also spreading to the truck area where discounts are now reported. And they're likely to continue as medium and heavy truck purchases fall off 2-5% and 10-20%, respectively.

Lead marks slowing demand

The heavy metal has turned a bit more buoyant over the past few months, as some 5¢/lb. is added to the producer asking price. But with demand far from robust, tags should soon begin to top out—probably when some of the recent production problems at a few facilities are resolved. Then, too, the sluggish demand pattern is likely to persist—primarily because of the mild winter.



Polypropylene pushes boosts

An earlier 3¢/lb. increase has failed to stick. And while another try is in the works, it's doubtful whether fundamentals will permit it to hold. Specifically, the industry is anticipating a flat demand year—all at a time when capacity is slated to increase upwards of 6%. Upshot: operating rates should drop into the mid-70s.

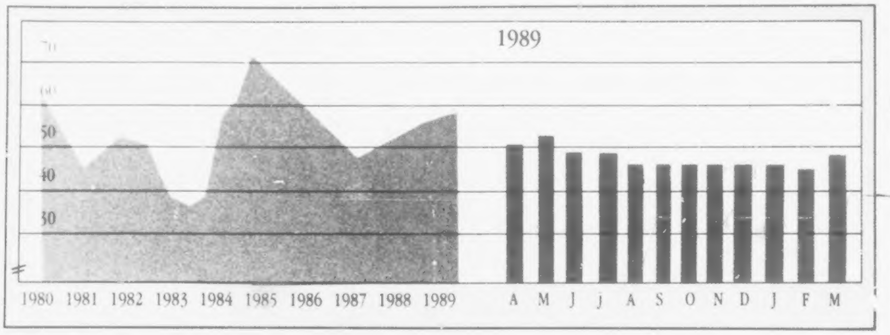
Computer costs are falling

After correcting for improved productivity, PCs are off 10% from a year ago. And further declines are likely—as Apple drops some prices 10-17% and Sun plans summer introduction of barebones RISC workstations for just $5,000. Second-hand computers—many available at half the price of a new unit—could also be a price depressant.

BUSINESS DATATRAK

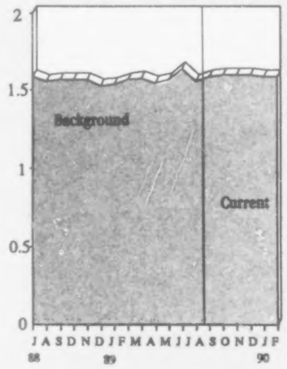
N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)

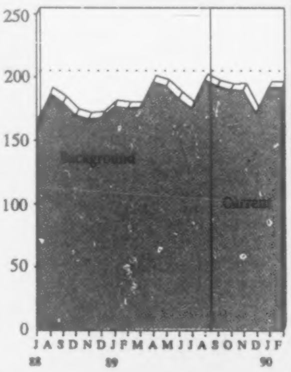


Leading indicators

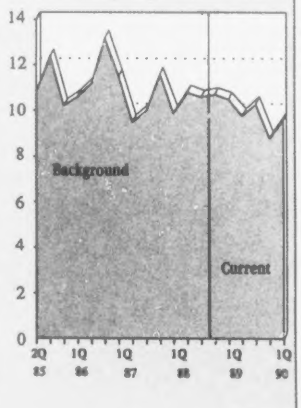
Inventory / sales ratio
(all mfg.)



Industrial distributor sales
(Index : 1977 = 100)



Auto sales million units
(Seasonally adj. annual rates



KEY ECONOMIC TRENDS

Looks can be deceiving

The numbers coming out of Washington these days may not look all that robust, but looks can be deceiving.

For one, the recent slowdown can be traced, in large part, to disappointing auto activity. Remove autos from final demand, and the trend is still basically up.

The auto buying pattern may be changing, as increased dealer incentives begin to move vehicles again (see chart). It indicates that families still have the purchasing power and desire to buy big-ticket items, provided the deal is sweet enough.

In any event, auto sales are now outpacing auto production, bringing car inventories down near normal levels. Conclusion: Detroit is almost certain to build more cars in the second quarter—enough to add more than a full percentage point onto the overall growth rate.

While on the subject of inventories, it should be pointed out that today's relative balance applies to a lot more than just autos. Take a look at the all-manufacturing stock/sales ratio (see chart).

It's now well below the peak of 1989, and surprisingly low in this late stage of the general business cycle. This should pave the way for new orders to be quickly translated into new production.

But perhaps the most heartening sign is the bottoming out in the National Association of Purchasing Management's Business Barometer, a yardstick designed to project industrial production a few months down the pike. It moved up three full percentage points during the latest reported month (see chart).

The bounceback in industrial distributor sales (another grass-roots manufacturing indicator—see accompanying chart) also points to better days ahead, suggesting that factory managers are beginning to lay in more MRO items—something they have traditionally done when they felt activity was ready to turn up again.

Most economists also seem to be optimistic these days. A new survey by the National Association of Business Economists finds that three out of five members are betting that the economy will avoid recession through 1992.

That's virtually unchanged from their appraisal three months earlier, when a similar question was posed. Obviously, these analysts have not been too disturbed by the recent spate of poor statistics.

In any case, the association's median GNP growth projection for the current year is put at 1.7%—about the same as that issued by the Congressional Budget

Office. Actually, this kind of figure is really not much under last year's 2.4% advance, provided you discount 1989's agricultural rebound from the 1988 drought.

So it looks like there's enough strength for the economy to get through its eighth straight year of gain. Production increases will hardly be spectacular, but by summer—if everything goes well—output could rise at a fairly respectable 2-3% annual rate (*vs.* about 1% in the quarter just ended).

CURRENT PRICES

Industry numbers leveling off

Chalk up another disappointing month on the industrial price front, as Uncle Sam's price watchers report considerably more increases than decreases. But the worst may be over, with prices likely to level or even drop in the months ahead.

This is certainly true in energy, where the latest round of price increases—in gasoline, home heating oil, and residual fuel oil—are basically pass-throughs of earlier crude oil increases. But since crude is now easing, the above refined products should soon be softening, too.

The same is true for some of the nonferrous metals. Copper, lead, and zinc all moved up appreciably in recent months. But a look at basic supply/demand fundamentals would seem to suggest that the worst is over, especially if the current sluggish GNP growth pattern persists.

Other areas where recent large advances are not likely to be repeated include aircraft engines, auto parts, bearings, and internal combustion engines. The latter, for example, rose more than a full percentage point last month, but is projected to level off over the remainder of the year.

The big increases in bearings (two full percentage points) are also not likely to be repeated. Ditto, similar increases in hand tools.

Also on the optimistic side is the slowdown in overall machinery price boosts. Capital equipment rose only 0.2% over each of the last few months—probably a reflection of a leveling off in demand after some rather impressive 1989 gains.

Construction materials could also have trouble racking up meaningful price hikes. Ditto, chemicals and plastics, where some of the early 1990 increases already seem to be in trouble.

Still other reassurances that industrial prices are under control comes from indexes which remove the volatile energy and food components. Increases over the past month in these more meaningful yardsticks of underlying inflation continue quite modest—0.1% for intermediate goods and 0.2% in the case of crude materials.

Leasing marks continued growth

Equipment leasing is still on the rise with another 7.5% increase anticipated for the current year, when nearly $132 billion in funding is expected to be earmarked for this alternative to outright purchase.

New Commerce Department estimates also suggest that growth is due to more than just an increase in overall (lease plus purchase) equipment investment. For over a decade, leasing gains have consistently outpaced increases in overall equipment spending.

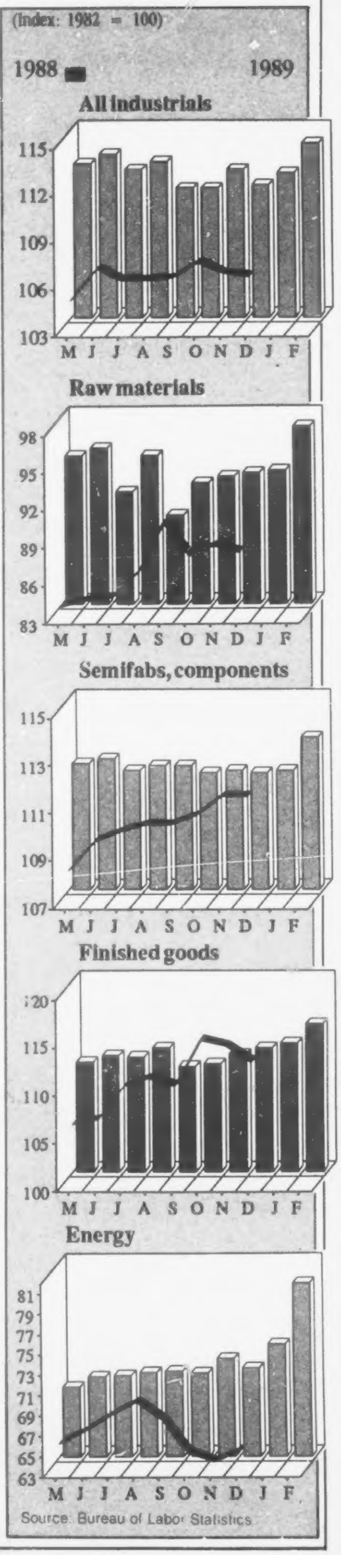
The study also points out that areas getting the biggest play will continue to be data processing, telecommunications, and aircraft equipment. The recent trends toward value-added and more customer-focused strategic direction will also persist—as lessors strive to differentiate their leasing products.

Another continuing trend: a move away from tax-oriented general finance business. Strong competition and narrow margins are forcing more leasing companies to focus on operating efficiencies, market forces, and strategic planning.

The recent decline in leveraged leasing is also expected to persist (a direct result of the tax reform act of a few years ago). Also, operating leases (where ownership does not transfer to the lessee at the end of the lease term) will continue to show the biggest growth.

Nor is there any indication that the popularity of

Industrial prices

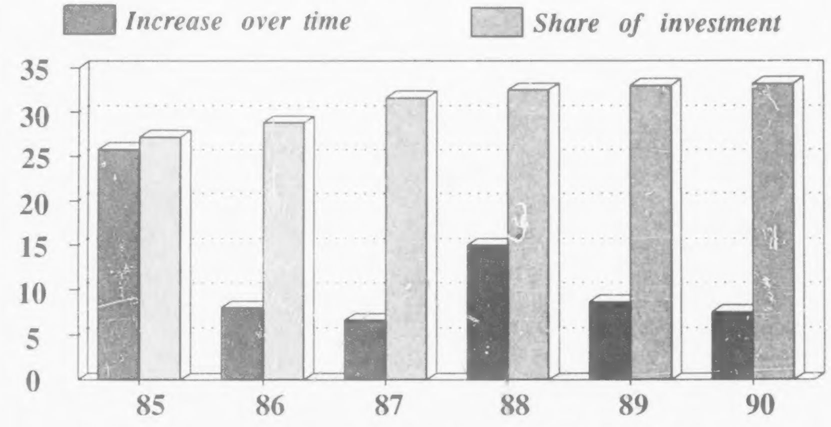


Source: Bureau of Labor Statistics

leasing is about to fade over the early 1990s. As the Commerce Department sums it up, "Rates of growth may vary by industry; but manufacturing, medical, data-processing, communications, aircraft and other transportation sectors will continue to be strong. Leasing will remain very attractive in the high-tech areas; however, opportunities in non-high-tech sectors will exist as well."

Also worth noting: the likelihood of increasing competition from foreign lessors—as they continue to enter the U.S. market, predominantly through the acquisition of established leasing companies.

Business equipment leasing trends



Source : Commerce Department, American Association of Epuipment Lessors

The ample supply is also permitting PMs to live on smaller inventories. The NAPM inventory change index has been falling for 15 consecutive months, and the latest reading (more than nine percentage points under the neutral 50 mark) is at the lowest level in over three years.

Commenting on the above, one PM observes that his buying leverage is now at its highest level since 1982, when the economy first began to come out of the last recession. This top buying executive sees the trend continuing for another six months, after which he sees a gradual return to more balanced markets.

PROCUREMENT STATUS REPORT

Leadtimes continue to shrink

What a difference a year makes—early last spring, leadtimes were way out. The list of items in short supply was long, running the gamut from basic metals like steel and copper to highly sophisticated electronics and other component parts.

Not so any more. Leadtimes are off *vis a vis* a year ago for well over half of the products monitored by *PurchasingWorld* on a regular basis. And they are still heading down, as *PW's* exclusive leadtime index racks up another month where shrinkages exceed extensions.

The National Association of Purchasing Management supplier delivery index (where anything under 50 indicates speedups) confirms this trend. The latest reading (43.3) is down more than four percentage points from the previous month, and ten percentage points from year-earlier readings.

One key reason: a still-growing supply glut. Industrial production in the first quarter barely finished in the plus column, while new capacity continued to come onstream at a near-3% annual rate. Upshot: the average factory operating rate is now around 81%—three percentage points under a year earlier.

Not surprising, items on NAPM's short supply list continue to dwindle. The only items of note are bearings, castings, electric motors, and a few chemicals. The latter, however, should prove short-lived, as new supplies come onstream.

And as expected, more purchasing managers (57%) are buying production materials on a hand-to-mouth or 30-day basis. A year ago, it was the other way around, with nearly half of the respondents ordering *more* than 30 days in advance.

Plant managers are optimistic

The nation's plant managers are not buying talk of 1990 stagflation. Their basic projections for the next 12 months: continuing new order and production gains, combined with reduced upward pressures on costs and prices.

That's what some 1,500 managers, replying to a new Dun & Bradstreet survey, are saying. Their specific projections for the current year, expressed in terms of so-called "optimism" indexes (percent of respondents expecting increases less the percent expecting declines):

- **Unit costs:** the index here has dropped to 41—some 14 percentage points under year-earlier readings. While obviously a zero reading would be better (those expecting decreases balancing out those looking for increases), it does seem to indicate somewhat better control on the cost side of the equation.

Also worth noting: the latent unit cost figure is the lowest since statistics on this key variable were first tabulated in 1988.

- **Price trends:** as might be expected, the pattern here is similar to the one described for unit costs. The index reading of 46 is off 13 percentage points from year-earlier peaks. And again, it is the lowest figure since this series was developed.
- **Demand outlook:** both new order and production yardsticks have slipped a bit. But with both at 56, further—albeit smaller-than-1989 demand advances—would seem to be all but certain.

STEEL SCENE

Mixed signals cloud picture

The steel picture has turned somewhat mixed these days.

On the plus side are 1) the guarded optimism of distributors responding to the latest Steel Service Center Institute (SSCI) survey and 2) relatively low inventories—especially on the part of steel buyers. On a less bullish note, PMs don't see any real pickup in their steel purchases anytime soon.

The 19% who do anticipate increases over the next three months are balanced by a similar 19% who feel declines may be in order. And the remaining 62% see little meaningful change.

This conservatism may, in part, be due to the fact that PM inventories, which are now at a low 1.65 month level, may drop even lower. One indication of this is expressed by the 31% who feel their stocks are still high relative to demand—almost five times as many as the 7% who think inventories are now on the low side.

This inventory restraint is also apparent on the service center front. The same near 5 to 1 ratio shows up in distributor ratings of current stocks. Specifically, 43% rate them as too high while only 9% feel they're too low.

SSCI president Andrew Sharkey observes that "while inventory levels for all products are now largely in balance, many of our members still think they are too high. And given the continued uncertainty in markets, we do not anticipate any signficant new buildup."

As noted earlier, though, these same service centers anticipate some increase in business from their customers (the steel end users). True, the gap between those projecting order increases and those projecting order decreases has narrowed a bit. But it's still quite impressive.

Tempering service center optimism, however, is the fact that member shipments continue to lag year-ago levels. And most distributors add they'll be hard put to equal 1989 tonnages over the current year.

This lack of any real big upward push is probably behind service center expectations of relatively soft prices. Their response to a question on where steel replacement costs will be six months from now tells the story. Some 43% say they will pay less *vs.* only 5% who feel they may have to pay more.

It should be pointed out, however, that the overwhelming majority of service centers who expect price erosion, see it as being relatively modest—in the 2-5% range. This limited forecast, incidentally, is confirmed by the latest Wharton Econometric projection which puts this year's average quote a few percentage points under last year's peaks.

The latest steel reports also suggest relatively little import competition. Thus, while 36% of surveyed buyers say imports are lower in price than comparable domestic offerings, all add that the differentials are slight.

Service centers add further confirmation here—with only 16% noting a foreign price advantage in carbon steel. That's actually a bit under the 20-22% figure noted during the first two months of the year.

About the only real import bargains, according to distributors, are in the

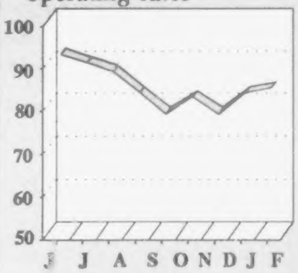
Import prices

(compared to domestic)

Steel buyers	
ABOVE	32%
SAME	32%
SLIGHTLY BELOW	36%
SUBSTANTIALLY BELOW	0%
SERVICE CENTERS (carbon)	
ABOVE	2%
SAME	82%
5-10% BELOW	16%
10-20% BELOW	0%
OVER 20% BELOW	0%

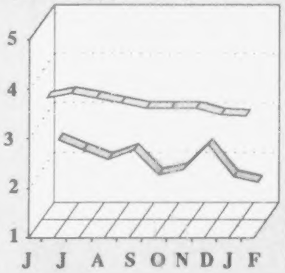
Steel

Operating rates



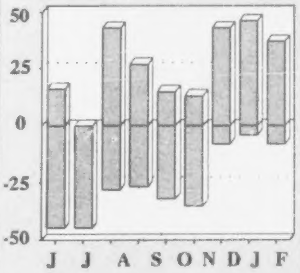
Inventories

(Months supply on hand)

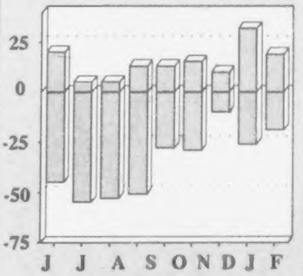


Demand (STEEL SERVICE CENTERS)

(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute, NAPM Steel Buyers Committee stainless steel area where a significant number (45%) say they can get overseas price breaks. And 15% of these put the advantage in the relatively high 11-20% range.

On the availability front, buyers have few concerns. Indeed, four out of five see problem-free buying in the spring and summer. The only concern voiced—and it's quite scattered—is in coated sheet. Elsewhere it looks like smooth sailing.

This month's breakdown

Index: 1982 = 100

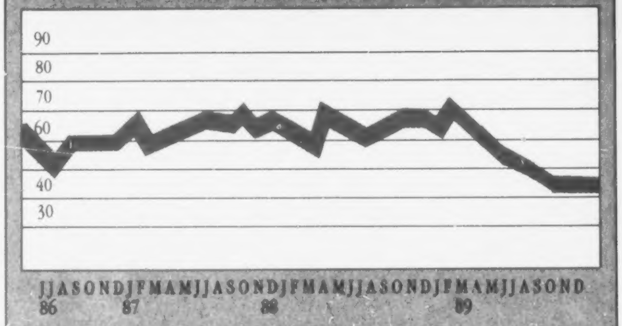
	Latest level (Jan.)	% change from: Month ago	Year ago
Bearings	128.2	2.0	6.7
Bolts, nuts, etc.	115.0	0.2	5.3
Chemicals, inorganic	110.9	0.4	3.7
Chemicals, organic	110.4	−0.9	−8.2
Concrete products	112.0	0.2	1.4
Corrugated cartons	112.2	−0.3	0.3
Cutting tools, small	112.7	0.2	3.4
Electric lamps (bulbs)	130.3	−0.9	5.3
Electronic components	119.3	−1.1	0.3
Fans and blowers	122.2	0.7	4.9
Foundry and forge products	115.1	0	2.0
Fuel oil (residual)	57.4	10.4	36.3
Furniture, commercial	131.7	0.7	3.8
Gasoline	69.0	13.9	24.5
Glass, flat	109.3	0.8	−1.5
Glass containers	117.9	1.7	5.0
Gypsum products	106.6	−2.2	−4.2
Hand tools	131.8	1.8	5.9
Hand tools, power driven	120.6	2.5	4.3
Industrial furnaces	126.0	0.4	3.2
Integrating and measuring instruments	124.2	1.0	6.7
Internal combustion engines	117.6	1.1	4.3
Lubricating oil	110.5	−1.3	3.1
Lumber millwork	129.0	0.3	4.5
Material handling equipment	113.5	0.3	3.7
Metal containers	112.4	−0.6	2.1
Metal mill shapes (nonferrous)	131.2	0.5	−6.7
Metal tanks	112.2	0.6	4.0
Motors and generators	131.4	0.6	3.7
Motor trucks	131.2	−1.9	0.2
Office and store equipment	110.9	0.4	1.7
Paperboard	138.8	−0.6	0.8
Paper boxes and shipping containers	131.3	0	3.4
Paper office supplies	121.0	−0.6	1.1
Paint	122.7	1.1	5.4
Plastic resins	120.7	−1.6	−14.0
Precision measuring tools	126.9	1.3	3.1
Pumps and compressors	117.0	0.6	3.8
Refractories	120.5	0.7	2.0
Rubber belts and belting	116.3	0	7.5
Scales and balances	107.8	0.1	1.8
Steel products	113.5	−0.4	−0.3
Switchgear	121.8	1.2	4.3
Textiles, synthetic fibers	107.2	0.3	6.6
Textiles, gray fabrics	117.9	0.3	2.1
Tires and tubes	97.1	−0.1	1.3
Transformers and power regulators	119.8	1.2	5.3
Welding equipment	124.0	0.3	3.1
Wire and cable	141.7	−0.7	−5.2

NAPM procurement trends

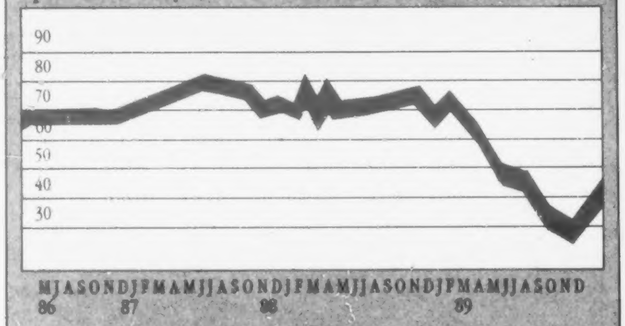
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

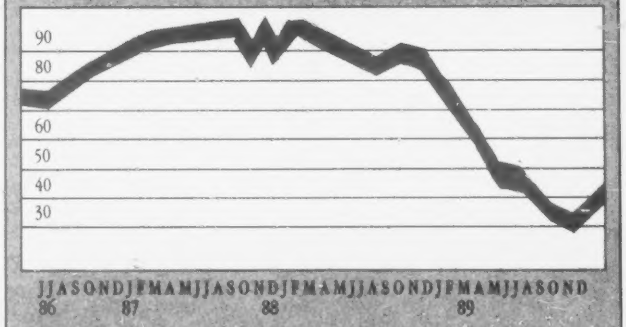
Inventories



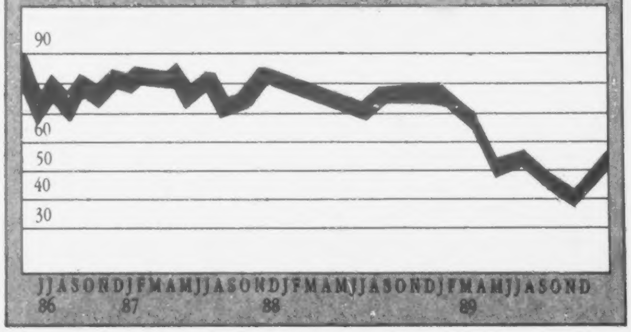
Speed of delivery



Prices



New orders



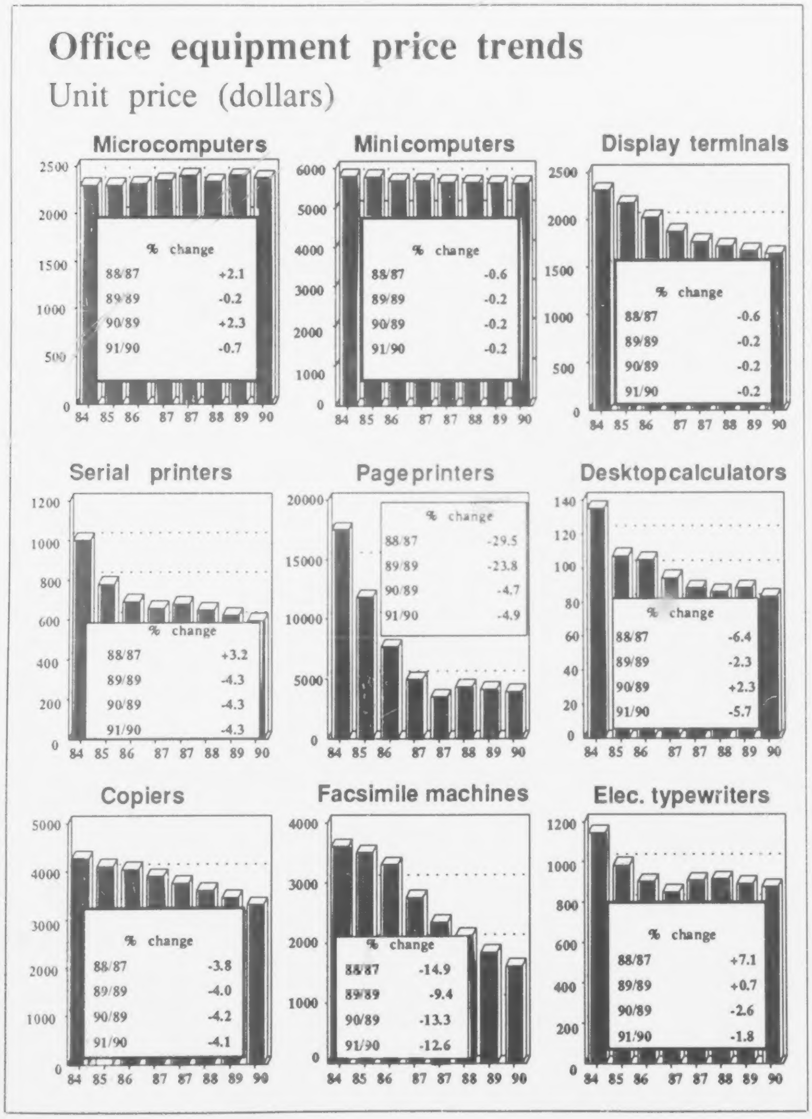
Office equipment:

Buyers' market to continue

Figure on a continuing buyers' market in office equipment as 1) demand gains slow down, and 2) technological advances and competition force prices down.

There will be a few exceptions to the demand lull, most notably in fax machines, computer software, and some types of printers. But even in these areas, gains won't be as healthy as they have been, both for the current year and the entire decade.

Decelerating demand increases doesn't mean the industry is about to flatten out. Quite the contrary. Relative to GNP, office equipment is still considered one of the nation's top growth sectors.



Office equipment price trends

Unit price (dollars)

Microcomputers

% change	
88/87	+2.1
89/89	-0.2
90/89	+2.3
91/90	-0.7

Minicomputers

% change	
88/87	-0.6
89/89	-0.2
90/89	-0.2
91/90	-0.2

Display terminals

% change	
88/87	-0.6
89/89	-0.2
90/89	-0.2
91/90	-0.2

Serial printers

% change	
88/87	+3.2
89/89	-4.3
90/89	-4.3
91/90	-4.3

Page printers

% change	
88/87	-29.5
89/89	-23.8
90/89	-4.7
91/90	-4.9

Desktop calculators

% change	
88/87	-6.4
89/89	-2.3
90/89	+2.3
91/90	-5.7

Copiers

% change	
88/87	-3.8
89/89	-4.0
90/89	-4.2
91/90	-4.1

Facsimile machines

% change	
88/87	-14.9
89/89	-9.4
90/89	-13.3
91/90	-12.6

Elec. typewriters

% change	
88/87	+7.1
89/89	+0.7
90/89	-2.6
91/90	-1.8

Take a look at the just-released Computer and Business Equipment Manufacturers' Association (CBEMA) projections, which put this year's dollar advance at a solid 10.4%—with the average increase over the decade ahead expected to average out at a slightly lower 9.7% rate.

Coming back to prices, as impressive as the above demand numbers are, they won't be enough to halt the steady price slide of past years. Indeed, all signs point to continuing erosion in list and transaction quotes.

Comparison of CBEMA dollar and unit figures suggests that average unit tags on most types of equipment will fall again this year. Thus, of nine key product lines detailed in the accompanying chart, seven are expected to sport unit price declines this year.

And in many cases, these figures underestimate the actual drop, as technological improvements provide more productivity for each dollar spent. A case in point: last year the unit price of personal computers (PCs) dropped by a little more than 2%. Yet an experimental government index, which takes into consideration the ever-rising productivity of these PCs, declined by 10%.

Further evidence of computer price softness continues to crop up on an almost daily basis. Witness IBM's new line of workstations, which start at $13,000 ($2,000 less than projected earlier) and are said to have price/performance ratios several times better than machines currently being offered by competitors.

Nor is the good price news (from the buyers' view) likely to change soon. All nine business equipment categories singled out by ***PurchasingWorld*** are expected to show price declines in 1991.

The sharpest unit price declines will continue to be in fax machines, where this year's expected 13% drop will be followed by an average 8% annual decline over the next decade. It means that some low-end machines could be selling for as little as $400 by year end or early 1991, and a lot lower than that by the mid-1990s.

Prices are also beginning to fall on new and improved faxes. Several vendors are now dropping tags on plain-paper machines which produce better tactile quality results, with less paper curl and fade. And before too long, you'll be reading about color models and Group 4 equipment (high-speed, high-resolution types which use digital transmission technology).

There's also growing interest in color copiers, now that prices are beginning to tumble. More than a dozen vendors now offer these machines, as tags on some of the lower-end models drop as low as $6,000.

Generally speaking, less expensive copiers (in the $6,000-25,000 range) are more than adequate for business applications where super-high color quality is not absolutely necessary.

And all the above is just a beginning when it comes to "new and improved." Even the old reliable PC is being threatened by something new (the so-called "X" terminal. Unlike the PC, it doesn't actually perform computer functions, but is part of a computer network with the work done by a separate central unit.

Bottom line is the X terminals cost far less than advanced PCs ($2,500 *versus* $5,000 or more for an advanced PC). Another plus is, they can be controlled from a central location, facilitating overall data management.

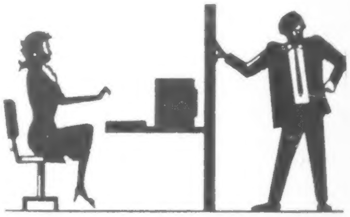
Also worth noting is the likely development of read/write compact disks, which have the capacity to store huge amounts of information and render current hard disk technology obsolete.

Behind these and all the other price and product developments is a combination of factors, including impressive technological advances, a need to improve office productivity, and possible shortages of entry-level office workers and data processing personnel.

Whatever the driving force, office equipment procurement will continue to eat up a growing percentage of the typical firm's purchasing dollar. All told, CBEMA estimates that the computing and business equipment industry will ship more than $286 billion this year—more than double the level of just seven years ago. And if you add in telecommunications sales (which most people consider part of the information technology industry), the figure zooms to more than $500 billion.

Keeping all the above in mind, here's how some key segments of this crucial and still-growing industry seems to be shaping up, both over the current year and through the coming decade:

- **Microcomputers:** look for some near-term growth deceleration. This year only 6,915,000 units are expected to clear the market, just 4% more than 1989. That compares to last year's much larger 11% gain. But an 8% advance is seen for 1991 as general business conditions improve. Long-term gains (through the year 2000) should also average out in the 8%-plus range.



"Office equipment is still considered one of the nation's top growth sectors."

Unit prices will tend to decline by about 1% annually. But as indicated earlier, real price declines—which factor in productivity gains—should be a lot more impressive.

- **Minicomputers:** one of the few areas likely to end up in the minus column this year, as sales drop 5% (to 157,300 units). Modest gains should resume over the long pull, with unit sales rising about 5.8% a year over the decade. Unit prices are expected to remain relatively unchanged.
- **Mainframe computers:** very modest growth is anticipated as improved, smaller, and less expensive computers meet the needs of more and more firms. All told, unit shipments will advance only 1% this year and at a slightly faster 1.9% pace over the next decade.

By the year 2000, mainframe's share of the computer market (in dollar terms) will fall to 23%, *versus* 34% last year. Unit prices over this period are expected to remain relatively flat.

- **Disk drives:** unit price declines will be a fairly steep 7% this year. And over the longer pull, this downtrend is targeted to continue, with average annual declines put at 7.2% for floppy disks and 9.7% for hard disks. In terms of unit sales, hard disks will tend to show bigger gains, rising 14.3% at annual rate over the next decade, *versus* only 8.4% in the case of floppies.
- **Modems:** another fairly large (9.6%) unit gain is seen for the current year, on top of last year's huge (near 24%) advance. Prices will be off another 10%, too.

Looking at longer-term trends, unit shipments should increase at an average annual rate of 6.3%, reaching 4.9 million units in 2000. Average prices over this period will continue to fall sharply, thanks to less expensive technology and economies of scale in an expanding market. Expect to pay an average of only $185/unit by the year 2000, *versus* $505/unit this year. That's the equivalent of a 10%/year decline in prices.

- **Computer software and services:** continues to be the fastest growing of all computer and business equipment sectors, sporting a 17% dollar gain last year. And this comes on top of the previous year's huge 26.1% jump.

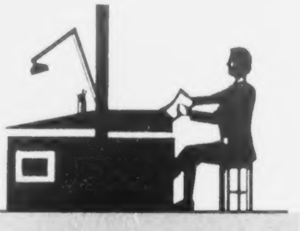
For the current year, CBEMA projects a 16% dollar gain—a figure that confirms Commerce Department predictions for a slightly larger

18% advance. Moreover, by the year 2000, average annual gains of 12.3% will bring billings to more than $286 billion—enough to make up 39.9% of the business equipment market (*versus* only 30.7% last year).

• **General display terminals:** although unit shipments are forecast to grow at an annual rate of 2.8% from 1989 to 2000, revenue is expected to peak in the mid-1990s and then decline. Reason: prices are continuing to drop as competition from microcomputers increases.

Lower manufacturing costs have permitted these price reductions. Unit prices of these terminals were $1,767 in 1988, and $1,720 in 1989, with a further dip to $1,670 expected this year. And by 2000, the average tag could be down around $1,400.

• **Line printers:** unit prices are forecast to fall about 2% a year through the 1990s. On the demand front, unit shipments could tumble to only 10,000 by 2000—94% under their 1985 peak, as page printers continue to take big bites out of this segment of the market.



"Office equipment will continue to eat up a growing percentage of the purchasing dollar."

• **Page printers:** thanks to continuing inroads into the line printer market, unit shipments will increase 19.5% a year over the next decade. Average prices over the period (reflecting technological advances) will drop about 6% a year. This, in turn, should also help page printers to capture a significant portion of the serial printer market as well.

• **Serial printers:** more modest growth (6.8% this year and 5.4% a year through the decade) is projected. This suggests sales of 11,645,000 units by 2000. Even so this won't be enough to prevent some erosion of market share—78% of the unit total last year to only 49% by the year 2000.

• **Calculators:** during the next decade, unit prices should continue their slow decline, averaging $32.61 in 1989 and $26.20 at the turn of the century. Unit shipments are forecast to continue growth—increasing by an average annual rate of 3.3% over this extended period.

The pattern of rising unit shipments and decreasing unit prices holds for both hand-held and desktop models. Hand-held models are expected to show annual price declines of 2.8%, with desktop units falling at a 2.4% annual rate.

• **Copiers:** fair-sized 5% unit gains are seen for the current year. Advances over the decade will be at an even slightly higher 6% rate, with increases spread equally among low-, medium-, and high-speed units.

Unit prices should continue to drift downward. CBEMA sees average quotes falling 4.2% this year and about 2.4% at annual rate over the longer pull.

• **Dictating equipment:** from now through the end of the century, unit shipments are projected to grow at a relatively low 0.8% annual rate. System units shipped during this span are expected to grow annually by 1.7%, portables by 0.8%, and desktops by 0.7%

Prices, meanwhile, will buck the general business equipment downtrend. Slight increases are forecast in all three segments of the industry, because of continuing enhancements to product functionality combined with a slow growth market which does not attract significant new competitors. Last year, desktops averaged $578—a figure which should advance to $592 in 2000. Dictating systems should jump from $3,496 to $3,607 over the same time span.

• **Facsimile equipment:** average prices fell 9.4% last year (to $2,121). Another decline of 13.4% is expected this year. Behind the sharp declines: increased competition, a rapidly growing market, declining costs for technology, and economies of scale. All this should continue, driving the average unit quote down to $982 by 2000 (the equivalent of an 8% annual decline).

Meanwhile, look for continued strong growth, with unit shipments rising 50% this year and 18% annually over the next decade. By the year 2000, annual sales should be approaching 12.5 million units—about four times what is expected to clear the market this year.

• **Manifold business forms:** dollar sales will be up another 5.2% this year, slightly under last year's 5.8% increase. And this trend should continue through the 1990s, despite growing use of computers and magnetic media. Reason: commerce and government continue to expand and people want and need "hard copy." By the year 2000, this market is forecast to be near $15 billion—nearly double the $8 billion figure of 1989.

• Standard office electronic typewriters: competition from low-end computers suggests an 8.7% decline in unit shipments this year, on top of the 5.3% and 6.5% drops of 1988 and 1989, respectively. Prices will fall again this year by about 2.6%.

Unit declines should persist (at a 3% annual rate) through the 1990s, as the price differential between low-end computers and standard electronic typewriters continues to narrow. The average unit price 10 years from now should drop to $735 (the equivalent of about a 2% annual decline from the average $915 price tag of last year.

• **Portable electronic typewriters:** further small declines in both units and unit prices are forecast for the current year, with the average quote expected to be off about 3.5% (to $259/unit). Fairly similar 3% average price declines are seen through 2000—as unit demand (hurt by rising computer literacy and falling PC prices) drops about 3.5% per year.

PW

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Advances in industrial distribution • Law quiz time
Truck vs. rail • Inside purchasing: A sad want ad

THE BUYER'S MAGAZINE ® *MAY 1990*

Purchasing research: How do you measure up?

Dr. Harold Fearon,
director of the
Center for Advanced
Purchasing Studies

CONTENTS

May 1990, Vol. 34, No. 5

COVER STORY

30 **How do you measure up?** The Center for Advanced Purchasing Studies (CAPS), located at NAPM headquarters in Arizona, is producing studies of vital interest to the purchasing profession.

FEATURES

34 **AC motors tackle new jobs** New developments mean AC motors can now perform some functions which were exclusive to DCs.

35 **Keeping motors ahead of industry** Technological advances mean motors can turn faster, and industry needs that capability.

38 **Truck versus rail** Results of a recent survey of transportation buyers might surprise you: rail is gaining in some areas.

FEATURES

41 **Look for advances in distribution** A professional in the distribution field takes a look at developments.

42 **Barcodes and EDI in a perfect match** At Pacific Bell, technologies have merged to simplify and speed up the flow of paperwork.

44 **Regional trucking meets distributors' needs** The Con-Way companies' regional approach to shipping benefits transportation buyers around the country.

46 **Risk management reduces price, cost savings** In the third article of his series, Ronald Leiffer explains aspects of commodity hedging.

58 **Seamless distribution** Careful attention takes the wrinkles out of distribution.

DEPARTMENTS

4 **Letters**

6 **Editorial**

7 **PW Predicts** Executive editor Bob Reichard addresses chemical, zinc, and material handling equipment prices, and says that, overall, prices are staying in control.

12 **PW Pointers** Where to find help on supplier certification strategies, improving mini-mill steel quality, purchasing standards, and your aching back.

13 **Inside purchasing** Dr. Ken Killen looks at a misguided want ad, bids vs. negotiation, and an abused engineer.

14 **Business Datatrak**

26 **Software in purchasing** Important features to look for

27 **Negotiations** Specifications and communication

28 **Transportation**

48 **Calendar**

49 **Office '90**

60 **New products/Literature**

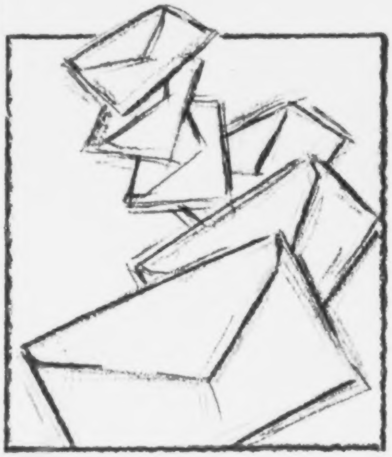
65 **Advertisers' index**

66 **Classifieds**

68 **Purchasing and the law**

PurchasingWorld

READERS TALK BACK



Where credit is due

Why not give credit where credit is due. The very same ideas you attempt to outline in your article (*"Purchasing into the '90s...and beyond—PurchasingWorld, January 1990)* are some of the basic points taught for years by Dr. W. Edwards Deming, many of which were spent with the same Japanese industries you are comparing. In fact the auto industries in this country are actively pursuing Dr. Deming's philosophies as evidenced by the Ford Taurus and General Motors Saturn, to name a couple.

If business in this country would recognize Dr. Deming as a leader in the management world and begin to learn his methods to achieve quality, both productivity and costs of production would improve, making the U.S. more competitive in the world market.

Act like professionals

I recently saw your editorial in the *PurchasingWorld* magazine. You raised some significant issues regarding the purchasing profession.

Note that my perspectives have been colored by my experience as a former purchasing manager, contracts manager, engineering manager, and house counsel for major corporations across the U.S. At the current time, I am president of a consulting firm headquartered in San Diego.

In some ways, the purchasing profession, perhaps, gets what it deserves—as a famous comedian stated, "I don't get no respect."

If, indeed, the purchasing professionals want to be treated as professionals, than they are going to have to act as professionals. Merely complaining about their tarnished image reinforces the beliefs, on at least part of the population, that as Shakespeare once said, "The lady doth protest too much, methinks."

Yes, indeed, there are quite a number of professional, honest, intelligent, hardworking purchasing professionals. Having said that, however, I think we should all recognize that the profession is also peopled by individuals who were put there by corporations to get them out of positions in which they could do some damage.

From my perspective, I feel that the professional procurement/purchasing associations are not doing enough. Even today, far to much emphasis, in my estimation at least, is focused by these associations on negotiating on price. It's my opinion that focusing on price demeans the entire profession to the level of haggling in a Casablanca rug market. What about the other issues which are often critically more important to a corporation than price, such as insurance, risk of loss considerations, patent rights, contract administrative control, and continued business relationships that support both buyer and seller organizations?

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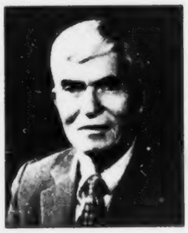
PW PREDICTS

The good news continues

The recent good news on the industrial pricing front looks to be continuing.

Tags on some items are moving up, but there's plenty of weakness to offset them. Take the National Association of Purchasing Management's price barometer; the latest reading of this amalgam of industrial purchases is still below the neutral 50 mark, suggesting that falling quotes actually outnumber those that are rising. That's been the case for 10 straight months.



Other indications of continuing ease include 1) the relatively flat pattern in the government's industrial producer price index and 2) the excess supplies being reported in such key raw materials as steel, nonferrous metals, chemicals, plastics, and paper.

The impact of all this raw material softness can't be underestimated. If nothing else, it removes the pressure for cost pass throughs on the intermediate and finished goods levels. In any event, there hasn't been one recent inflationary spiral that has not received its initial impetus from a crude material price runup.

Even the wage picture remains quite comfortable. That's not to say that unit labor costs aren't creeping up; they are, but the majority of the increase is centered in the service area.

More to the point, the situation in manufacturing (the area of immediate concern to industrial purchasing managers) isn't all that bad. That's basically because good factory productivity gains are to a large extent offsetting increases in hourly pay.

Last year, for example, unit labor costs in manufacturing rose only 1.5% (as a 4.3% boost in pay was offset by a 2.8% efficiency gain). That's far under the 4.5% advance recorded for the all-U.S.-industry unit labor cost measure.

And this year's wage cost picture doesn't look to change that much—as productivity gains persist and pay gains remain moderate. Employment costs jumped earlier this year because of higher Social Security contributions. And another rise is occurring this quarter from higher minimum wages. But beyond that, employment costs should top out.

The reason isn't hard to find: with GNP growing more slowly, unions this year are more likely to focus on job security and non-wage benefits, rather than on bigger paychecks. The tip-off should come this summer, when auto workers begin negotiating.

Moreover, this lull in wage pressure is likely to persist. A new report by the Conference Board sees the nation's factories racking up solid 2-3% productivity advances through the current decade. Conclusion? There's little danger of any new inflationary spiral—provided hourly pay hikes can be kept within bounds.

There are other signs that inflationary forces will remain under wraps, too. The capacity factor continues to increase faster than demand, making for potential supply gluts that will eventually take a toll on prices.

Then there are 1) continuing foreign competition (as the dollar remains stronger than it was a year ago) 2) slowly declining energy tabs, and 3) stronger buyer resistance to price increases. The latter shows up most vividly in the increasing number of discounts reported over the past few months.

What does it all add up to? ***PurchasingWorld*** equations call for industrial producer quotes rising only 2-2.5% this year, with the more inclusive GNP price deflator advancing at only a slightly faster 3.5-4% rate. Key point to keep in mind is that both estimates are under last year, when industrial tags rose 5% and the GNP deflator by 4.5%.

by Robert S. Reichard

Material handling costs stay down

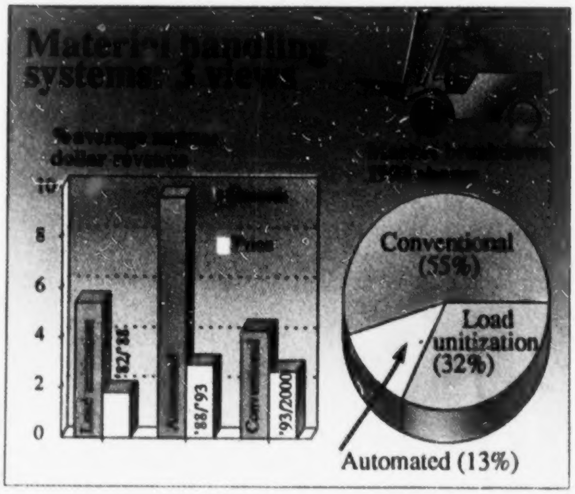
Good news for buyers of material handling systems: despite the likelihood of continuing solid demand gains, price increases should remain quite modest.

The details, contained in a new Freedonia Group study, see volume purchases advancing about 2.4% per year into 1993, prices by 2.9% a year. And price boosts beyond that (to the year 2000) are put in the even lower 2.6-2.7% range.

Much of the price restraint can be traced to imports, which now make up about 17% of the market. Heaviest imports, according to the Cleveland-based research firm, are centered in the industrial truck and conveyor areas—with automated equipment also beginning to accelerate. The biggest overseas suppliers: Japan, Germany, England, France, and Switzerland.

Meantime, here is how demand trends are shaping up in key sectors of this close-to-$10-billion-a-year industry:

- **Automated systems:** biggest advances are seen here (about 9.6% a year in current dollar terms). Sparking sales of these items (automated storage/retrieval systems, automated guided vehicles, robots, automated conveyors, and electrified monorails) will be improved technologies, lower costs, and availability of systems which interface automated with conventional equipment.
- **Conventional systems:** dollar growth for these items (conveyors, hoists, cranes, monorails, and industrial trucks) is put at a more modest 4.3% rate. Industrial trucks should fare best. On the other hand, shipments of bulk conveying equipment, hoists, cranes, and monorails will remain sluggish.
- **Load unitization systems:** dollar sales of pallets, strapping, and palletizers, are expected to grow 5.4% per year. Demand will be buoyed by palletizers which can be incorporated into automated systems—and by products that can be used in a wide variety of applications such as strapping, film wrap, and pallets.



Aluminum bottoms out

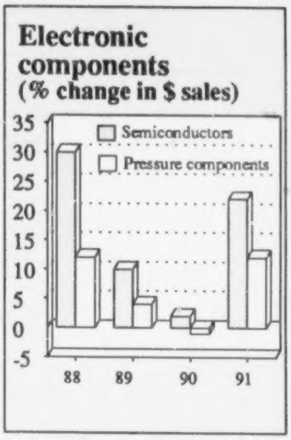
The light metal seems to be bottoming out, at least temporarily, with ingot now commanding a bit over 70¢/lb. There's no need to worry about a new runup, primarily because U.S. mill shipments this year are expected to run only the 7.6-7.8 million ton range, 3-5% under last year's levels. Also calculated to keep a lid on tags: rising capacity. It suggests a small surplus for the year as a whole, with tags possibly falling again, perhaps as low as 60¢/lb., by sometime this fall or early winter.

Steel erosion still the rule

Price erosion in steel is more the rule than the exception. One recent estimate puts the average quote of all steel at only $491/ton, some 2.5% under fourth quarter 1989 levels. The shading is most severe in commodity-type items like hot-rolled sheet, where spot transaction tags fell by close to 5% over the same period—leaving these quotes more than 20% under last spring's levels. Cold-rolled prices are also low (around $470/ton at latest report). But some edging up is possible here by summer, to near $500/ton, due to low buyer inventory positions.

Electronics pressed down

Count on continuing downward price pressures as the big semiconductor market increases by a bit over 2% this year (current dollar basis), far under the 10%-plus gains of 1989. All told, average selling prices should be down 3%. Similar sluggishness is seen for passive components, where little overall demand is anticipated. But next year could see a substantial pickup, with dollar gains for semiconductors and passive components put at 22% and 11%, respectively. The projected 12% gain in computer and office equipment will support this pickup.


Electronic components (% change in $ sales)

Resin tags pushed down

Sharply lower feedstock costs for ethylene glycol and paraxylene have helped push resin tags down, reversing last year's price runup. As of latest report, material was moving in the 58¢/lb. range, off about 5¢/lb. from last fall's levels. And bottle makers are pressing for another 5¢/lb. decline. Demand, meantime, is beginning to pick up and the overall 1990 gain should easily top last year's disappointing 2% level. Capacity, however, is ample, with output at latest report running at only 75-78% of estimated industry potential.

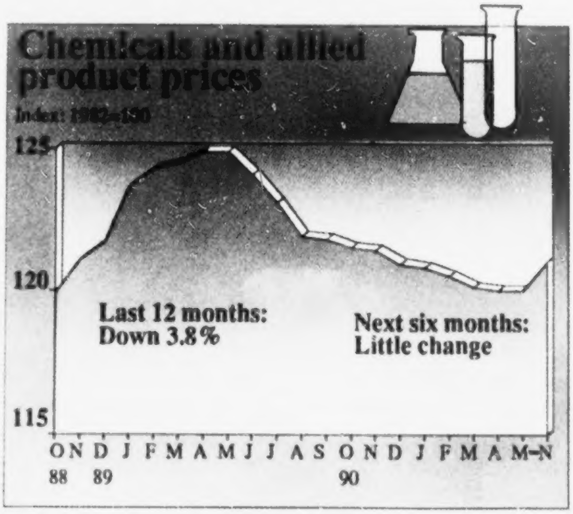
Chemical prices easing

CURRENT SITUATION: Markets remain on the sluggish side. Output during the first quarter did little more than match late 1989 levels. **More important, the easiness is spreading into the price sphere.** Some plastic resin tags have been edging higher—notably polyethylene and polypropylene. But these, as well as most other resins, remain well under year-ago levels. There are good buys in industrial chemicals, too, as averages actually declined in the first quarter about 0.5%. And judging from the current combination of lackluster demand and still-rising capacity, **the April-June period is likely to see similar price slippage.**

DEMAND: There is little to suggest any significant increase in orders this year. For one thing, only a 2% increase in GNP will present few opportunities for domestic growth. The stronger dollar is inhibiting exports, so the best bet for 1990 is **little more than a 2.5% boost *vis a vis* 1989.**

SUPPLY: Excess capacity is now the order of the day, as additional production potential continues to come onstream at near 5% annual rate. Not surprising, industry capacity utilization has dropped from a high of 89.3% in early 1989 to 87% currently, with a further drop to 85% likely before year end. One example is ethylene, which was operating flat out early last year, and has now dropped to 90%, and is still falling.

PRICE OUTLOOK: Current shakiness should persist, through summer and perhaps even beyond. In any case, averages will hold pretty much at current levels. And several bellwether chemicals—especially in the organics area—should experience substantial weakness. Ethylene could drop under 20¢/lb. by year end or early 1991. Styrene and most plastics aren't going anywhere, either, but benzene could inch a bit higher. Looking further into the future, today's oversupplied markets are likely to persist, **with overall price averages rising only 0.1-1% in 1991.**



Antimony hits the bottom

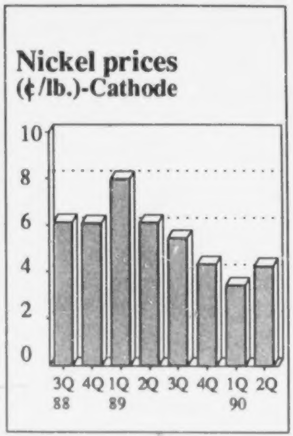
The metal seems to be bottoming out in the 85¢/lb. range, some 15¢/lb. under year-ago readings. Behind the stabilization: the reduced number of producers in the market and some modest pickup in end-use markets (fire retardants, ceramics, plastics, and glass). Another possible firming factor is the Chinese sale of 100% of the country's total output. All this, in turn, would seem to point to a modest updrift, with tags again approaching the $1/lb. mark by late fall or winter.

Paper markets still soft

Markets continue to soften. Premium grade pulp is being discounted by as much as $15-30/metric tons off the $830/metric ton official list. Some lower grades are being shaded by as much as 12-14%, with some uncoated white papers boosted 5%. Discounting is rife here, however, as it is in coated paper, especially the groundwood grades. Newsprint prices are also well under list, and even with a new $35/ton boost to $685, the prevailing newsprint transaction quote is expected to remain well under that, probably somewhere in the $560-575/ton range.

Nickel now stabilizing

Prices are stabilizing in the $4/lb.-plus range after falling as low as $2.78/lb. earlier this year. Don't expect a big rebound, with the $8.65/lb. high commanded at one point last year remaining nothing but a bad dream. The reasons for continuing low quotes are poor demand from the auto industry and an expected leveling off in capital equipment usage. Total demand is put at 1.42 billion pounds this year, *versus* a new supply of 1.44 billion pounds. This excess is small, and should be easily handled by the market.



Lead prices head lower

Tags have edged lower after hitting the highwater 65¢/lb. mark in early March. They remain far above the 44¢/lb. end-of-1989 low, however. Behind the softness: expectations of a sluggish near-term order pattern (due primarily to reduced Detroit demand for batteries) at a time when global supply will be increasing by upwards of 1%. This could mean as much as a 100,000-ton surplus for the year, something which could force tags down by as much as 20¢/lb. by late summer or fall.

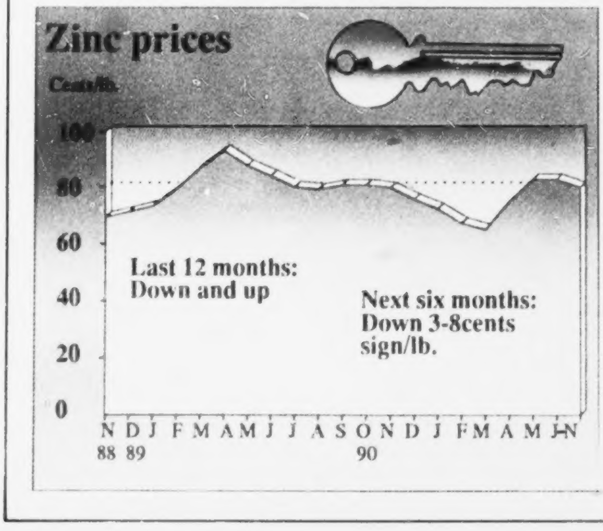
Zinc prices are turbulent

CURRENT SITUATION: Volatility is the name of the game these days as relatively small 1-2% shifts in the stock/sales ratio make for major price swings. Unfortunately, the latest direction is up—as supply disruptions spark the market for this big-volume plating and alloying metal. Rates in recent weeks, for example, have jumped into the 80¢/lb.-plus range—**close to 15¢ above recent February lows.**

DEMAND: Sluggish automotive and construction activity should limit near-term end-use consumption. Indeed, US usage this year will be lucky to equal, much less top, last year's estimated 1.09 million metric ton level. **And the same flat pattern is anticipated for the free world as a whole**—with totals likely to do little more than equal last year's estimated 5.3 million metric ton figure. But galvanized zinc, viewed separately, should manage to eke out a small gain—primarily because of increased per vehicle use in the auto sphere. Looking further ahead—**long-term US growth should average in the low 1-2% range.**

SUPPLY: Current tightness should give way to better balance—as production dislocations are resolved and demand remains relatively flat. Indeed, if all goes well, the year could end up with a slight global surplus—enough to push inventories back up to normal levels by year end. Also on the plus side, US production could rise as much as 9% this year as 1) Zinc Corporation of America's Menace mine expands and 2) Alaska's Red Dog mine edges toward full initial production. Also reassuring: the industry's capacity is pegged at near 5.6 million tons (a bit above use).

PRICE OUTLOOK: Near-term volatility is likely to persist—thanks to delicate market balance and the existence of a single world price on the London Metals Exchange. Nevertheless, better supply/demand balance does suggest a gradual, if irregular, downward drift—with prices dropping as low as 75¢/lb. this fall.



Lower prices for keyboards

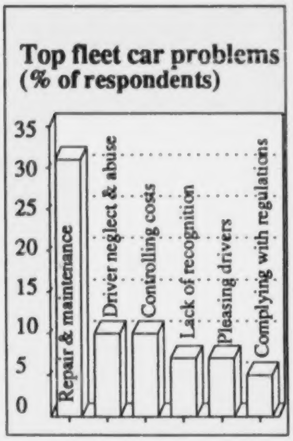
Continuing price pressures are reported in the large-volume full-travel 101-key market. Buyer emphasis is shifting to low-cost membrane switching technology, an approach that permits purchases in the $30 or lower range. That's well under the $35 and over and $40 price floor on hard contact electromechanical and capacitance models, respectively. Membrane types also offer size and weight advantages for new laptops and notebook-type computers.

Copper prices continue up

Prices continue to run above earlier expectations, primarily because of a combination of temporary supply disruptions and below average inventory levels. But the day of reckoning will eventually come, as increasing production catches up with (and then surpasses) demand. The betting is that tags could be down near the $1/lb. mark by late summer or early fall, with the average for the year coming in significantly under last year's $1.31/lb. level. A further drop into the 70-80¢/lb. range is possible by 1991.

Upkeep is fleet problem

Repair and maintenance outlays are fleet car managers' most pressing headache these days. Close to one-third of some 250 executives responding to a new Runzheimer survey list this as their number one problem. Other pressing concerns (in descending order): driver neglect and abuse (10%), controlling overall costs (10%), lack of recognition (7%), pleasing drivers (7%), complying with regulations (5%), and finding time to manage (5%). Their biggest future concern is rising costs, followed by increasing Federal regulation and alternate fuel requirements.



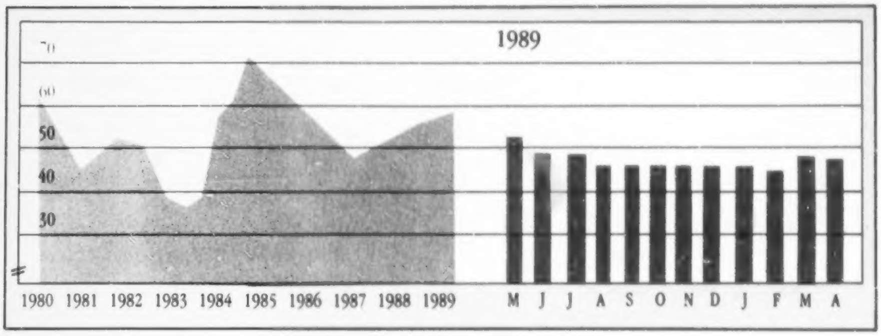
Electronic parts mark decline

Recent declines have brought tags on 1-Mbit DRAMS down into the $6-8 range—only about half the price-spread prevailing just one year ago. The lower prices could, in turn, delay any major shifts to 4M-DRAMS—probably until 1991. But 1Mbit DRAM buyers may find future price declines harder to come by, as producers slow down chip production. The slowdown would still seem to assure an adequate supply, particularly since the industry now expects to sell only 600 million units—100-150 million under previous estimates.

BUSINESS DATATRAK

N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance).



KEY ECONOMIC TRENDS

Downturn fears fade

Things are looking somewhat brighter these days, as fears of a business downturn slowly fade.

The most impressive bit of news: a bottoming out in the widely monitored National Association of Purchasing Management (NAPM) Business Barometer (see chart). The latest 48.8 reading is one-half a percentage point above the previous month, and more than 3.5 percentage points above the recent January low.

Especially encouraging are increases in both the production and new order components of the index. Another plus: new export orders are at the highest level since last September—and this despite a relatively strong U.S. dollar.

NAPM business survey committee chairman, Bob Bretz, sums it up: "The continuing easing in the pace of economic decline as we exit the first quarter is encouraging. But despite the fact we may be forming a bottom, caution should be exercised."

Lending credence to possible better days ahead is the leveling out in nondefense capital goods orders (see chart). It means that corporate executives are still willing to spend when conditions are right. The latest numbers seem to suggest that capital spending in real terms will at least equal last year's levels.

Other durable goods orders aren't bad, either. Add transportation and defense ordering, and total durables are running nearly 2% over the previous month.

Consumer attitudes may also be perking up—with the Conference Board's confidence index rising 3.5 percentage points (to 110.2) at last report (see chart). Particularly encouraging is the fact that people are more upbeat about business conditions and the availability of jobs than they were earlier this year.

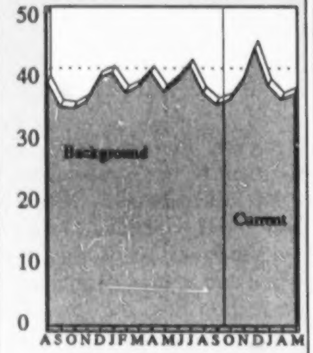
This, in turn, would seem to indicate that retail sales will continue to hold up. Soft goods purchases never really dropped. And now there are increasing indications that auto purchases (with the aid of incentives) may be close to last year's 9.9 million-unit total.

One sign of better days for Detroit: automakers are raising their production sights. Right now they seem to be planning on turning out 1,749,000 vehicles in the second quarter—up 18.6% above the number produced during the first three months of the year.

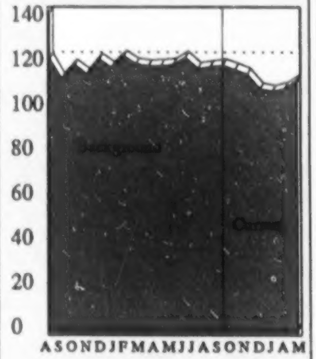
Housing also may have hit bottom. Sales of new homes turned up in February after a big 7% January decline. Upshot: most estimates now call for the construction of as many as 1.5 million new units this year—up modestly from

Leading indicators

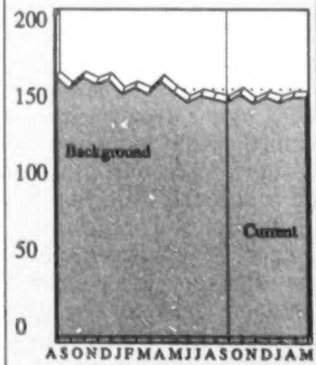
Capital goods(non-defense)
Orders-Bill. $ seas. adj.



Consumer Confidence
(Index: 1985=100)



Help wanted
(Index: 1967=100)



last year's 1.4 million level.

The employment outlook isn't bad, either. For one, help wanted advertising has bottomed out (see chart). Also the number of jobs is on the rise again, and the unemployment rate remains relatively unchanged at a bit over 5%.

Another significant positive factor is the continuing low level of inventories relative to sales. For all manufacturing, the latest reading is put at 1.60 months, unchanged from beginning-of-year levels and well under the 1.70 levels that prevailed as recently as 1986.

What does it all add up to, then, in terms of new industrial production? ***Purchasing World*** equations now point to a slow gradual rise—as the nearly flat pattern of the past six months gives way to as much as a 3% annual rate of growth over the spring and summer months.

increase after weather-related tightness.

Put all the above into the projection hopper, and it's hard to see the industrial producer price average increasing by more than 0.2-0.3% a month through mid-year—roughly 2.5-3.5% at annual rate.

CURRENT PRICES

Producer prices edge lower

It almost seems too good to be true, but Uncle Sam's all-inclusive producer price index actually edged lower over the last reported month (see chart).

There were special circumstances—primarily the failure of some beginning-of-the-year price boosts to hold up (normal for this time of year) and a rather sharp decline in most energy products. But even if you remove these special factors, the overall price pattern remains basically flat—with increases and decreases balancing each other out.

Looking first at energy, the overall decline here came to a hefty 4.1%. Lower tags were reported for gasoline, residual fuel, diesel fuel, kerosene, electric power, and crude oil. Only natural gas managed a fractional advance.

Several paper products were also off during the month, including corrugated, fine papers, and pulp. And judging from late-breaking developments, further slippage can be anticipated here for the current month.

Plastics and chemicals, on the other hand, showed some signs of bottoming out. This could prove temporary, as new capacity continues to come onstream in excess of demand projections in virtually all key areas.

Metals, meantime, are a mixed bag. Steel is still edging lower. Some nonferrous metals—mostly copper, lead, and zinc—all sported increases. These latter gains are beginning to wash out, and this could mean a decline when the next round of government statistics is released.

Capital equipment tags generally tended to advance, but at a snail's pace. The 0.2% increase this past month comes to less than 2.5% at annual rate—considerably under last year's average rate of advance.

Also on the favorable side is the relatively flat pattern in construction materials—with the drop-off in housing being the major braking factor. Here, too, little change is anticipated, with perhaps some edging off in plywood, as supplies

How much for distribution?

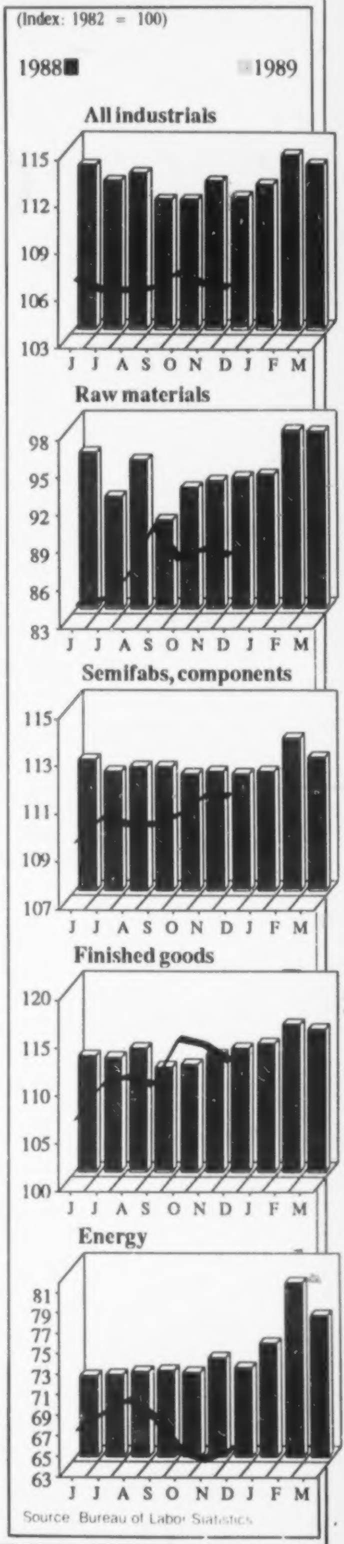
Don't overlook distribution when planning new cost-cutting drives.

To be sure, these outlays expressed as a percent of sales have been falling in recent years (see chart). But the fact that absolute cost per hundredweight has been steady or even higher over this period indicates that higher product prices rather than better distribution may be behind the improving "percent of sales" performance.

New figures released by Herbert W. Davis & Company, Englewood Cliffs, NJ, also suggest variations in these costs between and within individual industries, as follows:

- **Between industries:** while the latest overall average (expressed as a percent of sales) is 7.46%, an area like replacement parts is sporting an 11.56% share. At the other end of the spectrum are pharmaceuticals, where only 2.45% of each sales dollar goes for distribution.
- **Within industries:** there is a wider dispersion here than between groups. Industrial durables are selling for less than $10/lb., and although the average company here spends 8.77% on distribution,

Industrial prices



Source: Bureau of Labor Statistics

over one fourth of surveyed firms had costs under 4.85%.

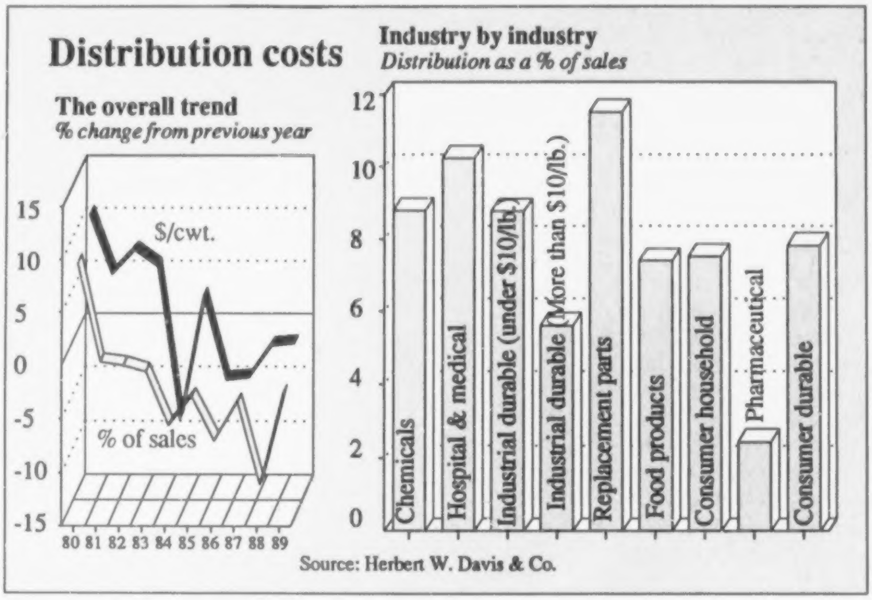
Clearly some of these companies are doing something different, otherwise why would the lowest cost outfit be shipping similar products to the same customers at one-third the cost of the higher cost firms?

The Davis study also pinpoints the importance of the various distribution costs. Leading the list is transportation (2.92% of the 7.46% all-industry average). Inventories and warehousing are next in importance—with 1.91% and 1.83% contributions

Finally, a few Davis & Company suggestions on how to improve performance: short range, these would include the need to make the most of current facilities; use warehouse productivity standards; get state-of-the-art equipment; negotiate lower transportation costs, and change warehouse service areas.

In the intermediate time frame, find out what your current customer service level is; what your competition is doing; evaluate marketing policies that add to distribution costs.

And for the long range, replan your facilities' configurations; bring your system up to date, coordinating with marketing and company goals.


Distribution costs

The overall trend
% change from previous year

Industry by industry
Distribution as a % of sales

Source: Herbert W. Davis & Co.

PROCUREMENT STATUS REPORT

More thrust for buyers' market

The flat business pattern of the past few months has added new impetus to the already-existing buyers' market. Some of the evidence:

- Factory operating rates have dropped to the 82% level, and seem more likely to go lower than higher in the months immediately ahead.
- There have been more supplier delivery speedups than slowdowns for 11 straight months. This shows up most clearly in leadtimes, with more than three out of every four products coming in faster than just one year ago.
- 30-day (or less) buying is on the increase. And at the other end of the spectrum, just a handful of PMs say they are committing 90 days or longer in advance.
- Inventory retrenchment continues, albeit at a diminished pace. The downtrend here has been uninterrupted for over a year, indicating that no one is worried about getting things in a hurry should the need arise.
- The NAPM short supply list is dwindling, and is now down to six items. That's the fewest since the economic recovery began in 1983.

The six items noted: bearings, electric motors, alkalis, hydrogen peroxide, sodium chlorate, and titanium dioxide. The latter three are all due to the move away from chlorine use by papermakers to avoid dioxin.

Dynamic random access memories (DRAMs) are the only other item reported by some buyers as being somewhat tight. And this is only a temporary phenomenon, with chip makers already backing off their early decision to cut production schedules. In any event, there is still more-than-ample capacity around in this area, and supplies should be adequate again by late spring.

This "no sweat" situation in most industrial items is expected to continue over the longer pull, too, as new capacity coming onstream outpaces projected demand gains. Areas likely to remain especially easy: steel, nonferrous metals, most chemicals, plastics, and paper.

Factories function at lower rates

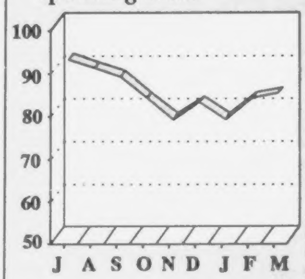
New Federal Reserve Board factory utilization estimates confirm today's relatively easy supply situation.

Almost two full percentage points have been knocked off the overall operating rate over the past 12 months (see chart). While hardly earthshaking, it has been enough to make for 1) less upward demand pressure on prices and 2) dwindling lead times.

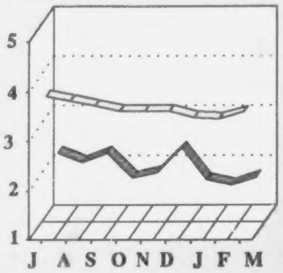
A closer look also reveals that all sectors appear to be problem-free. Indeed, paper is the only industry now above the 90% level (91% to be exact). And even this has to be considered quite low—for paper mills traditional-

Steel

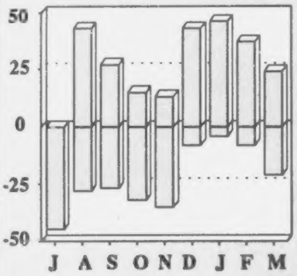
Operating rates



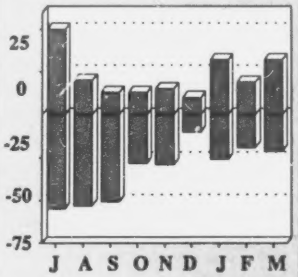
Inventories
(Months supply on hand)



Demand (STEEL SERVICE CENTERS)
(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute, NAPM Steel Buyers Committee

ly prefer to operate in the 95%, or even higher, range.

Also indicative of an improving procurement situation is the fact that all but two industries are sporting lower rates than a year ago. The two exceptions are nonelectric machinery and petroleum products where levels have remained relatively unchanged.

The most impressive declines have been in raw materials—and this is one reason why prices have been quite weak here in recent months. Metal activity, for example, has dropped from an 88%-plus rate to less than 82%—with impressive fall-offs also noted for chemicals and paper.

Some of the more highly fabricated sectors of the economy have not escaped unscathed either. Auto plants are operating at less than 71.5% of their potential—far under the 85% figure of early 1989. And electrical equipment makers, while not down all that much from last year, are operating at a very low rate—under 76%.

More important, this same basically oversupplied pattern is expected to persist for some time. Reason: The 3% rate of new capacity additions of recent quarters looks to continue. It is a rate that will equal or surpass projected increases in industrial production.

Upshot: operating rates should remain in the relatively low 81-82% range through summer and fall. That's a net insignificant three to four percentage points under the 85% level that traditionally has separated a buyers' from a sellers' market.

STEEL SCENE

Steel increases are anticipated

Steel activity could be ready for a modest pickup.

That's what service centers and purchasing managers are saying these days. Surveys of both groups show many more anticipating an increase in demand over the next three months.

Latest figures are particularly encouraging on the purchasing front. The substantial number of steel buyers who plan on increased purchases over the next 90 days represents a shift from a month earlier when increases and decreases balanced each other out. In any event, the latest ratio in favor of advances (3:2) is the best showing here in more than two years.

Distributors responding to the latest Steel Service Center Institute (SSCI) survey tell pretty much the same story. Moreover, the favorable proportion indicating increased business has held steady now for four consecutive months, with the ratio over the past month in the 2:1 range.

Commenting on this, SSCI President Andrew S. Sharkey said, "Most steel consuming industries remain healthy." But he hastens to add that a few areas like transportation equipment still leave a lot to be desired.

Even so, it now seems apparent that second quarter steel shipments will show some improvement. Right now the betting is that domestic mills will ship some 21 million tons over the three-month period—up 0.7 million tons or 3.5% from a disappointing first quarter.

One reason for this gain could be the end of the long inventory correction. Total user stocks in the current quarter should remain relatively unchanged after the near-one-million-ton drawdown of the previous six months.

Both service centers and buyers say their inventories are still too high relative to sales, but they always tend to say that. More important is the fact that the number feeling this way is slowly dwindling.

Other news here: some 11% of queried buyers feel some increase in inventories may be in order—the largest such number in over two years. One reason could be the low 1.81 months' supply reported by PMs.

A slowly improving durable goods manufacturing outlook could be another factor behind the improving demand outlook. *PurchasingWorld* projections see this key indicator of steel use rising as much as 5% at annual rate during the second quarter, reversing the negative figures of

Import prices

(compared to domestic)

Steel buyers
ABOVE 37%
SAME 26%
SLIGHTLY BELOW 37%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 69%
5-10% BELOW 29%
10-20% BELOW 0%
OVER 20% BELOW 0%

the past two quarters.

But despite this anticipated demand pickup, no real procurement headaches are anticipated, so 85% of queried buyers see no problems developing over the summer and fall months.

The price outlook also suggests relatively clear sailing. At least that's what steel service centers are telling survey takers these days, with 27% expecting steel tags to edge lower through fall.

Another possible price rise inhibitor is the fact that nearly three out of 10 of these same distributors feel they can obtain foreign carbon steel 6-10% below the comparable domestic product. This, incidentally, is confirmed by steel buyers.

This, in turn, could give imports a bit of a lift this year, to about 18 million tons. That's close to a million tons more than entered the country in 1989.

This month's breakdown

Index: 1982 = 100

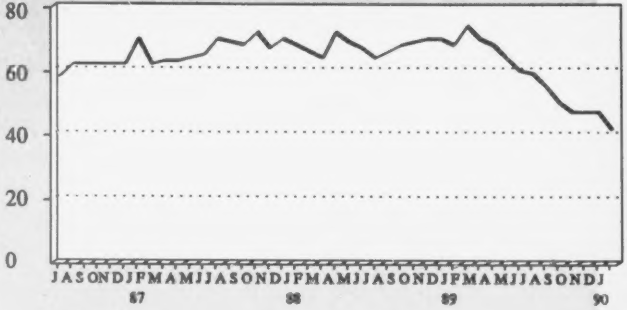
	Latest level (Feb.)	% change from: Month ago	Year ago
Bearings	130.1	1.5	7.8
Bolts, nuts, etc.	115.5	0.4	5.9
Chemicals, inorganic	111.4	0.5	3.7
Chemicals, organic	112.5	1.9	−6.7
Concrete products	112.2	0.2	1.4
Corrugated cartons	111.9	−0.3	−0.1
Cutting tools, small	112.8	0.1	3.4
Electric lamps (bulbs)	130.3	0	5.1
Electronic components	118.5	−0.7	−0.7
Fans and blowers	122.1	−0.1	4.8
Foundry and forge products	115.6	0.4	2.0
Fuel oil (residual)	55.6	−3.1	27.2
Furniture, commercial	132.4	0.5	4.3
Gasoline	67.2	−2.6	18.3
Glass, flat	108.7	−0.5	−1.6
Glass containers	119.1	1.0	6.1
Gypsum products	106.0	−0.6	−4.3
Hand tools	133.3	1.1	6.0
Hand tools, power driven	120.1	−0.4	3.9
Industrial furnaces	126.6	0.5	3.3
Integrating and measuring instruments	124.8	0.5	6.9
Internal combustion engines	117.6	0	4.3
Lubricating oil	115.6	4.6	8.3
Lumber millwork	129.3	0.2	3.4
Material handling equipment	113.6	0.1	3.4
Metal containers	113.2	0.7	3.2
Metal mill shapes (nonferrous)	129.4	−1.4	−7.0
Metal tanks	115.8	3.2	5.8
Motors and generators	132.1	0.5	3.0
Motor trucks	130.5	−0.5	−0.5
Office and store equipment	111.0	0.1	1.7
Paperboard	138.4	−0.3	−0.2
Paper boxes and shipping containers	131.2	−0.1	2.4
Paper office supplies	121.3	0.2	0.4
Paint	122.4	−0.2	4.3
Plastic resins	121.3	0.3	−14.2
Precision measuring tools	126.9	0	2.5
Pumps and compressors	117.7	0.6	4.1
Refractories	121.5	0.8	2.1
Rubber belts and belting	117.3	0.9	7.6
Scales and balances	108.0	0.2	1.9
Steel products	112.7	−0.7	−1.3
Switchgear	122.6	0.7	4.4
Textiles, synthetic fibers	107.9	0.7	6.7
Textiles, gray fabrics	118.2	0.3	3.8
Tires and tubes	96.0	−1.1	−0.9
Transformers and power regulators	120.1	0.3	3.7
Welding equipment	125.6	1.3	3.8
Wire and cable	137.9	−2.5	−6.0

NAPM procurement trends

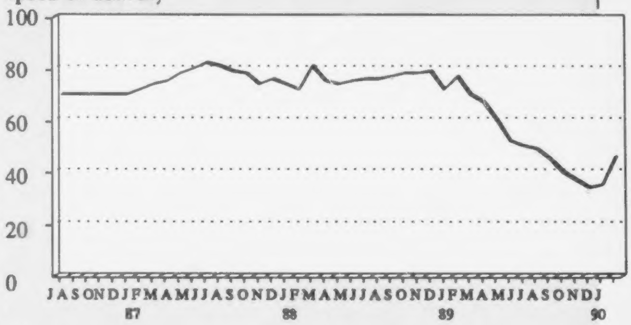
(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.

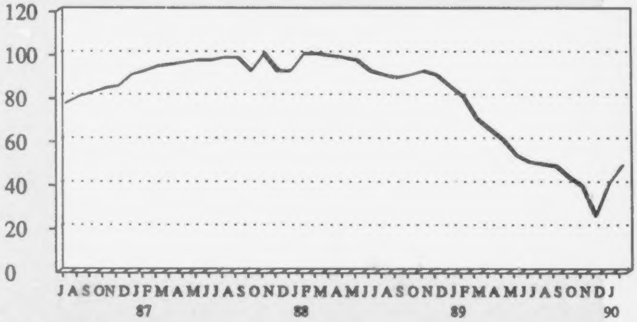
Inventories



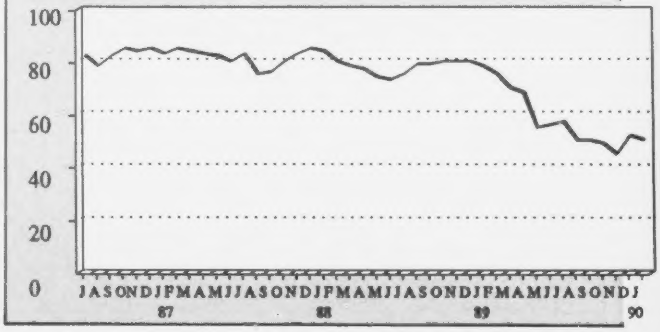
Speed of delivery



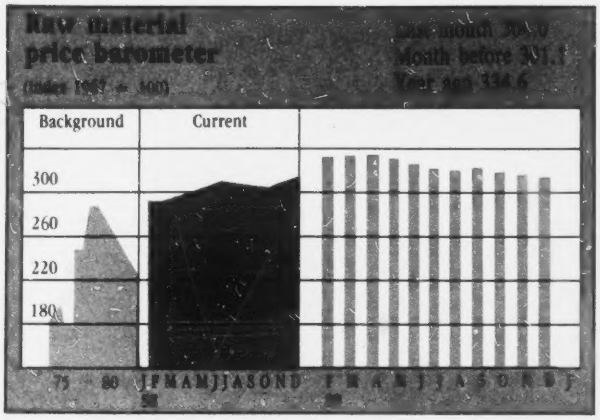
Prices



New orders



BUSINESS DATATRAK



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, dlvd. Phila., cwt., merchant quality	18.70	18.70	18.70
Steel, bars, Pitts., cwt.	18.70	18.70	18.70
Steel, bars, C.R., Pitts., cwt.	23.95	23.95	25.20
Steel, plates, Pitts., cwt.	23.25	23.25	23.25
Steel, plates, H.R., Pitts., cwt.	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt.	30.65	30.65	29.65
Steel, strip, C.R., Chi., cwt.	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.728	.675	.935
Antimony, N.Y., dealer, lb.	.84	.84	.99
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, [sheet], lb.	1.88	1.82	2.13
Brass, yellow, [sheet], lb.	1.84	1.78	2.09
Cadmium, N.Y., dealer, lb.	4.40	4.60	7.10
Copper, electrolytic, wire bars, refd., lb.	1.25	1.19	1.50
Copper sheet, over 24 in., lb.	1.97	1.91	2.22
Lead, common, N.Y., lb.	.56	.45	.35
Magnesium, pig ingot, [99.8%], lb.	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl.	285.00	290.00	295.00
Molybdenum, oxide, dealer, lb.	3.22	2.90	3.72
Nickel, cathode, dealer, lb.	4.25	3.50	6.98
Platinum, dealer, oz.	475.00	509.00	523.00
Silver, N.Y., oz.	4.98	5.12	5.80
Tin, N.Y., dealer, lb.	3.04	2.92	4.40
Zinc, Prime West, East St. Louis, lb.	.80	.70	.90
Zinc, die casting alloy, No. 3, lb.	.89	.78	.98
PAPER			
Uncoated book #3 offset, ton	940.00	940.00	1020.00
Watermarked bond, ton	1090.00	1090.00	1095.00
Gummed sealing tape, carton	19.02	19.04	18.86
Grocery sacks, ton	495.00	495.00	460.00
Solid bleached paperboard, ton	830.00	835.00	730.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	410.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	.288	.282	.283
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.24	1.24	1.22
Cotton middling, 1", N.Y., lb.	.710	.668	.600
Printcloth, 48", 80x80, N.Y., spot. yd.	.50	.50	.50
Army duck, 37", 13 oz., yd.	1.49	1.45	1.50
Blended printcloth, 64", 78x54, yd.	.76	.72	.75
20s combed yarns	1.85	1.85	1.80
Wool 64s, Staple, lb.	3.00	3.00	3.75

	Latest price	Previous month	Year ago
CHEMICALS			
Acrylonitrile, tanks, lb.	.35	.35	.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	95.00	95.00	123.00
Benzene, petroleum, tanks, Houston, gal.	1.25	1.36	1.50
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid [over 25%], tanks, lb.	.55	.55	.55
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.133	.133	.106
Glycerine, synthetic, tanks, lb.	.795	.845	.785
Methanol, syn., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.40	.40	.52
Naphthalene, crude, tanks, lb.	.17	.16	.16
Phthalic anhydride, tanks, lb.	.33	.33	.41
Polyethylene resin, low density liner film grade (market place), lb.	.375	.385	.490
Polypropylene, homopolymer grade (market price), lb.	.365	.365	.460
Polystyrene, general purpose grade (market price), lb.	.490	.465	.585
Polyvinyl chloride, pipe grade (market price), lb.	.305	.285	.435
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.375	.375	.490
Sulfur, crude, ex-terminal, Tampa, Fla., lt.	123.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	.95
Xylene, Gulf Coast, spot, barge, gal.	.87	.95	N.A.
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	350.78	351.00	326.95
Lumber 2x2 pine, mbf, cl	327.20	328.51	321.47
Plywood, plyform, ¾", msf, cl	638.00	637.90	570.00
Plywood, ⅝", msf, cl	400.57	410.94	370.22
Cement, bulk, ton, tl	62.72	62.31	63.88
Sand, ton, cl	6.97	7.05	7.17
Ready-mix concrete, 3,000 psi/cu. yd.,	47.95	47.85	48.81
Crushed stone, 1½", ton, cl	N.A.	N.A.	N.A.
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	91.64	90.98	87.17
Reinforcing bars, whse base; per cwt	21.88	21.92	21.32
Asphalt paving AC-20	108.01	106.95	108.53
Vitr. Clay Sewer Pipe, Prem Joint, 12", per ft, cl	N.A.	N.A.	N.A.
Concrete sewer pipe, 24", prem. joint, per foot, cl	17.92	17.94	17.90
FUELS			
Crude oil (W. Tex Int Cush), bbl.	20.30	21.30	20.40
Diesel (reseller rack, Chi), gal.	.5685	.5385	.5110
Fuel oil No. 2 (N.Y.), gal.	.5910	.5975	.5625
Fuel oil No. 2 (Gulf spot), gal.	.5265	.5550	.4750
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	20.50	24.00	18.75
Gasoline (prem unlded NY), gal.	.7185	.6025	.7000
Gasoline (reg unlded NY), gal.	.6535	.5625	.6850
Kerosene (reseller rack, Chi), gal.	.6585	.6285	.5960
Propane (Mt. Belvieu, Tex), gal.	.2413	.2338	.2225
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	103.00	98.00	114.00
Steel, No. 1 hvy., dlvd., Chi., ton	110.00	98.00	113.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.150	1.075	1.195
Copper, No. 2, East, wholesale buy, dlvd., lb.	1.060	.965	1.120
Brass, red, East, wholesale buy, dlvd., lb.	1.110	1.035	1.155
Brass, yellow, East, wholesale buy, dlvd., lb.	.57	.54	.61
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	.510	.380	.645
Alum., mixed clip., E., wholesale buy, dlvd., lb.	.510	.450	.725
Zinc, old, East, wholesale buy, dlvd., lb.	.300	.300	.380
Lead, clean solids, East, wholesale buy, dlvd., lb.	.240	.200	.235
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	– 20.00	– 20.00	Nom.
Old white ledger, Chi., ton	75.00	75.00	75.00

[Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.]

DRI sees moderate price inflation

Moderate inflationary pressures are anticipated over the next few years—not overall, but for most key industrial products.

The accompanying price table—supplied to *PurchasingWorld* by Data Resources, Inc. (DRI)—tells the story. Note that most increases average out in the 3-5% annual range, pretty much a repeat of recent experience.

Two key reasons: continuing ample capacity and modest labor cost boosts. On the latter score, DRI sees wages and salaries rising by just 4.7% this year and 4.8% in 1991, not that much above the 4.3% figure of 1989. And if you zero in on manufacturing workers, the 1990 and 1991 increases are even smaller—4.2% and 4.6%, respectively.

All this, in turn, is having a restraining influence on most industrial commodity prices, with major product areas expected to shape up something along these lines:

- **Petroleum:** near-term trends will follow declining crude prices. But look for some gradual acceleration in 1991-92. The average acquisition cost for foreign crude drops 1.1% in 1990 before increasing 4.0% and 6.1% in 1991 and 1992. The overall producer price for fuels and power increases 2.0% this year, 3.2% in 1991, and 5.3% in 1992.
- **Steel:** tags should remain weak into mid-1990, but strong overseas markets and import restraints will keep the drop-off within bounds, despite lackluster demand here in the U.S. Prices will only regain momentum toward the end of the year, as markets strengthen. On an annual basis, the aggregate iron and

Industrial prices through mid-1992
(second quarter comparisons)

Product line	1991	1992
Basic raw materials & energy		
Non-food, non-fuel for mfg.	6.0	5.4
Paper and paperboard prod.	5.6	5.3
Fuel and power	3.7	5.1
Electric power	2.5	3.1
Metals		
Steel mill products	3.1	4.1
Carbon steel plate	2.6	4.6
Galvanized sheet	4.6	3.6
Cold-finished bars	4.8	4.8
Magnesium ingot	2.5	2.1
Aluminum shapes	3.7	5.7
Copper scrap	12.9	7.9
Lead	-0.3	8.6
Component parts		
Rubber belts	3.2	2.4
Industrial controls	2.9	5.2
Internal combustion engine	3.9	5.8
Industrial pumps	1.8	2.9
Water heater	2.3	4.4
Valves & fittings	1.3	6.7
Electronic components	4.4	4.7
Construction		
All materials	4.2	4.4
Gypsum products	4.0	3.5
Flat glass	3.3	3.5
Refractories	3.9	4.8
Concrete products	3.6	4.5
Asphalt roofing	3.2	3.1
Machinery		
Transformer & power regulators	-1.8	2.5
Communication equipment	2.3	1.8
Mining equipment	4.4	2.3
Trucks	3.6	3.5
Railroad equipment	4.4	4.2

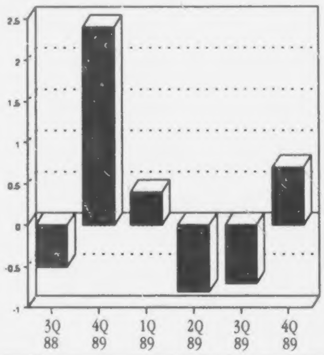
Source: DRI/McGraw-Hill Cost Information Services

Gap widens:

Domestic vs. import prices

Import prices stabilize

Overall (Ex fuel)



Product-by-product

	% change from	
	Previous quarter	**Year ago**
Textiles	0.7	1.7
Steel bars & rods	0	4.2
Fasteners	0.1	1.8
Tools	−0.2	4.0
Electric motors & generators	−0.8	−0.1
Textile machinery	1.2	−0.3
Printing machinery	1.0	−2.4
Metalworking machinery	.03	0.1
Heating & cooling equipment	1.0	−1.6
Pumps & compressors	0.5	3.8
Mechanical handling equipment	1.6	−0.5
Bearings	3.7	4.3
Office machinery	−0.7	−1.6
Electrical machinery	0.2	−0.3
Automobiles	2.2	0.4
Electronic components	−0.4	−4.1

The import/domestic price gap may be widening a bit again. One indicator: tags on incoming products have recently tended to move up much less than their domestic counterparts. Over the past quarter, for example, import prices (excepting fuel) advanced only 0.7%. And on a now-*versus* 12 months-ago basis, foreign quotes (again excepting fuels) have remained virtually unchanged.

Domestic quotes, on the other hand, have continued to inch up. Indeed, the overall industrial average was, at latest report, running close to 4% above a year ago.

The improved import performance, for the most part, reflects some slow recovery in the value of the dollar *vis a vis* the currencies of many of our trading partners. In any case, the dollar is now worth more on a trade-weighted basis than it was at the beginning of 1989. And other things being equal, this tends to put a lid on landed import costs.

With all the above in mind, here's a more detailed rundown of the latest import trends—as reported by Uncle Sam's Bureau of Labor Statistics:

- **Imported crude materials:** fourth quarter tags, down 0.8%, have been falling for three consecutive quarters. The latest decline follows a large 4.9% third quarter drop—and brings the 12-month decline to near 5%. In contrast, prices for imported crude materials had increased substantially during the three preceding years.

Leading the drop was a 3.7% fall in metal ores and scrap. Import prices also continued to move lower for textile fibers and crude minerals. Meantime, cork, wood, pulp, and wastepaper all moved lower in the fourth quarter after earlier rises.

- **Fuels and related products:** A big 6.5% fourth quarter jump more than reversed a 6.1% third quarter dip. And for the year as a whole, imported fuel costs rose 30%—compared to the 16% or so decline in 1988.

During the latest quarter, crude petroleum spurted 9%. In addition, a 14% rise in gas oils was due, in part, to the unusually cold weather which increased demand for heating oil.

- **Chemicals:** a slight 1% fourth quarter increase was noted after the declines of the previous two quarters. For the year as a whole, imported chemical tags were down 2.7%.

Looking at the fourth quarter alone, five components recorded increases after having moved lower earlier in the year. Thus, organics rose 2.3%, following decreases of over 3% in each of the two preceding quarters. Inorganics, which were down sharply earlier in the year, were up 0.4%. And plastic resins edged down after increasing slightly earlier in the year.

- **Intermediate goods:** prices dropped 0.9% during the fourth quarter, marking the third consecutive quarterly decrease. For the year, averages were off 0.7%.

A closer sector-by-sector look finds that nonferrous metals were down 3.9% for the latest quarter and 14.4% for the year. Iron and steel imports were off 2.2% in the latest quarter—the first drop here in over three years. Paper and paperboard products sales also edged lower.

- **Machinery and equipment:** a 0.9% fourth quarter rise was primarily due to the usual model change price increases for motor vehicles. Also up after several quarters of decline were specialized machinery (1.6%), and general industrial machinery (1.1%)—with fractional increases (0.2-0.3%) also noted for office machinery, metalworking machinery, and electrical machinery.

For the year as a whole, overall machinery and transport equipment increased 0.2%—compared to increases of between 5.5% and 10.9% in the three preceding years. In contrast, telecommunications equipment imports continued to move lower—dropping 1.1% over the latest 3-month period.

- **Miscellaneous manufactured goods:** price boosts averaged 1.3% over the fourth quarter. For the year, the gain was only a slightly higher 1.8%—well under the bigger 10.4% and 3.9% gains of 1987 and 1988, respectively. Leading the fourth quarter advance were gold coins, apparel, and a catchall group dubbed photo apparatus, optical goods, watches, and clocks. **PW**

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• Buying for R&D • WEFA on transportation rates
• Value-added bearings • Murray on indemnity clauses

THE BUYER'S MAGAZINE ®

JUNE 1990

Merger combines great bloodlines

KR
KILSBY-ROBERTS

Left to right
Earle M Jorgensen, chairman
Neven C Hulsey, President and CEO
Lonnie R Terry, Exec VP and COO

Special Section
Steel Service Center Institute

CONTENTS

June 1990, Vol. 34, No. 6

COVER STORY

43 Merger combines great bloodlines

The Earle M. Jorgensen Co. and the Kilsby-Roberts Holding Co. have merged, forming the largest independently owned metal products distributor in the country. *PurchasingWorld* takes a look at the combination of their strengths and assets: Jorgensen in bars and Kilsby-Roberts in tubing, the geographic reach of their supply operations, and the shared management experience in metal handling and processing.

FEATURES

48 The bearing industry

New services from bearing manufacturers mean greater value for buyers and their companies. Buyers can now find information on maintenance readily available to make their purchases last longer.

Earle M. Jorgensen, chairman of the newly combined Jorgensen and Kilsby-Roberts. Page 43

Steel service centers offer their customers more than ever before. Page 27

FEATURES

53 Chemicals and plastics

Capacity is increasing, and demand is not keeping pace: for the near future, buyers will enjoy ample supply and easing prices in this important market.

SPECIAL SECTION

27 Steel Service Center Institute

Whether you buy from members of the Steel Service Center Institute or not, knowing what this vital organization is and does can be valuable. *PurchasingWorld* offers a special section devoted to information on services from the institute and its members, with emphasis on the new attitudes on partnerships and further processing for value-added service.

DEPARTMENTS

2 Killen wins Shipman award

Annual NAPM banquet fetes *PW* columnist

4 Editorial

Titles are important to purchasing's position in the company

5 Inside Purchasing

6 PW Predicts

Money's role in the economy; Petroleum in the 1990s; Capacitor market downturn; Furniture industry bolsters plastics demand

14 Business Datatrak

Signs of recovery: consumer spending, manufacturing production, durable goods orders; A turning point in the NAPM index; Collective bargaining contracts; Mixed signals from CPI and PPI disguise positive outlook; Steel scene: favorable first quarter

22 Transportation

The Wharton Report, exclusive to *PW* readers, shows only a modest rise in rates

24 Negotiations

How to buy small quantities for R&D needs

65 Advertisers' index

66 Classified

68 Purchasing and the law

Was the indemnification clause part of the offer?

PurchasingWorld

Killen wins Shipman medal

Dr. Ken Killen, for several years a *PurchasingWorld* columnist, was presented the J. Shipman Gold Medal Award in ceremonies at the 75th annual National Association of Purchasing Management banquet May 1 in New Orleans.

The Shipman medal, highest award in purchasing, is given to an outstanding member of the purchasing profession who has rendered it great service.

Dr. Kenneth Killen

Dr. Killen began his business career in purchasing with the Kroger Company in Cincinnati, buying equipment, services and MRO supplies, managing transportation and value analysis projects, and a warehouse operation. For the past 25 years, he has been a college instructor (now professor) first at Dyke College in Cleveland, and now at Cuyahoga Community College's western campus (also in Cleveland). He holds a BS in Administration from Miami University, an MBA in Economics from Xavier University, and a Ph.D. in Education from Nova University.

In his acceptance speech, salted with the trademark Killen humor, he thanked his wife for her support, and recounted his experiences in Boy Scouting—where he earned the rank of Eagle Scout in four years—which gave him a sense of purpose in life.

He still is involved with scouting, when he's not behind the lectern as professor or traveling speaker on purchasing topics.

Dr. Killen has a 31-year association with purchasing, 23 of which have been as a member of an NAPM-affiliated association (District VI). He has held office in the Cleveland PMA as second and first vice president, president, member of the board of directors and director of national affairs.

In related activities, he has acted as a consultant, speaker (the Purchasing Association of Akron acknowledged him as "speaker of the decade"), seminar leader, writer/author, and a reviewer of Dobler, Lee & Burt's well-known purchasing text.

Dr. Killen is recognized as a co-founder of District VI's purchasing educators group, and received District VI's Professional Development Man of the Year award as well as its Ted Thompson Purchasing Educators award.

In his "private" life, Killen has not only been active in scouting, but in United Way campaigns, local political bodies, and has served as president of Toastmasters International. He is a member of the Ohio Speaker's Forum and the National Speaker's Association.

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PW PREDICTS

Money's role in today's confusing economy

Recent data releases have mystified many analysts as to the current status of the economy. In general, it appears that the data on economic performance continues to be mixed, though gravitating to the slow side, while price indexes surprisingly signal inflationary pressures.

Looking at the money supply provides some answers on the economy's status. Though in the long-run changes to the stock of money only influence price levels, most economists acknowledge that in the short-run, money alters both employment and output. Currently there is no consensus as to the lag between a monetary policy change and its impact on output, but a conservative guess would place it between three and eighteen months.

Recent monetary policy: through its open market operations the Federal Reserve tightened policy from late 1986 until late 1987, eased until the spring of 1988, then reestablished a more restrictive policy. This tighter monetary policy lasted approximately one year. Between the spring of 1988 and spring of 1989, the Federal funds rate (the rate banks charge each other for overnight loans) signaled this monetary tightening by rising over three percentage points. The Federal funds rate exists as the base rate to which other market rates are anchored. For example, the prime rate (the base rate on corporate loans from commercial banks) has traditionally remained 150 basis points (1.5%) above the federal funds rate. Growth in the monetary aggregates, especially the most closely watched definition of money - M2 also reflected Fed tightness during this time.

Given this monetary scenario and understanding the lag involved, it is clear why the U.S. economy has experienced a period of slow growth since mid-1989. Two things however, must not be overlooked. Since the spring of 1989 the Federal funds rate has fallen over 1.5%, and M2 growth has surged to the top of its target cone. This looser monetary posture bodes well for economic performance latter in the year, with some data already implying as much (see Datatrak).

The worry now is that recent inflation numbers might incite a change in Fed policy, stimulating a new round of rate hikes. This seems unlikely for the time being, given Fed Chairman Alan Greenspan's track record of gradualism and the appearance that the latest round of troublesome inflation numbers are the result of shocks, not the indication of any takeoff or long-run trend.

Though inflation as reported by the consumer price index (CPI) has advanced sharply during the first quarter of 1990, the producer price index (less food and energy) has been trending gradually downward since last summer. This is important for two reasons, the most obvious of which is that commodity prices should remain stable. In addition, some analysts view the producer price index as a rough indicator of forthcoming inflation via the supply transmission process. If this is true, CPI levels should moderate over the next six months.

The Fed momentarily finds itself at a crossroads. If the Federal Open Market Committee decides that the benefits of movement toward zero inflation do in fact outweigh the costs, then at the next FOMC meeting in July, monetary policy may in deed be tightened. This scenario seems unlikely. Expect the Bush Administration to influence the Fed to maintain monetary policy as is, allowing for continuation of the economy's soft-landing recovery already underway.

By John Sheridan

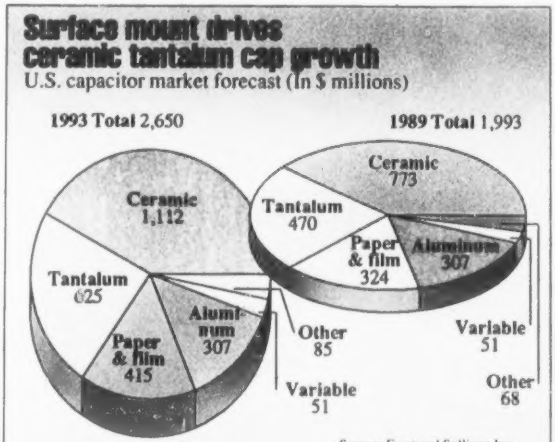
Capacitor market down

OVERVIEW: Reduced defense procurement, coupled with the economy's overall slow growth, are working to restrict capacitor sales. An overabundance of suppliers, along with this drop in demand, are creating a buyers market that is expected to last through year-end. The longer-term view on capacitors remains favorable for buyers. Rising industrial capacitor usage, advancing consumption of capacitors by office and equipment OEMs, and continued capacitor usage in U.S. auto production should offset declines in defense purchases. Moreover, globalization trends, productivity investment and capital expenditure increases are expected to catapult the capacitor industry through 1993. According to analysts from Frost & Sullivan, New York, the market will grow from $1.99 billion in 1989, to $2.7 billion in 1993.

SUPPLY: Intense competition among foreign and domestic suppliers is likely to reduce by half the number of domestic capacitor producers over the next five years. Throughout the 1990s, industry and product positioning will be the pinnacle factors for capacitor suppliers. At times, supply shortages may occur as suppliers realign themselves when market niches appear.

DEMAND: Overcapacity and excess supply should dictate price movements over the next few years. A recent study from Technology Forecasters reports that capacitor buyers select suppliers based on timely delivery, price, off-the-shelf availability, quality and service.

OUTLOOK: Though ceramic capacitors can function at a higher temperature, they fail to possess as high a capacitance as tantalum caps, while tantalum caps fall short of aluminum cap capacitance levels. As a result, there is heavy research and development in higher frequency ceramic capacitors. New innovations utilizing ceramic caps should appear relatively soon, which could stimulate even lower prices. Buyers will also benefit from quality and efficiency improvements to existing ceramic, tantalum and aluminum capacitors.



Surface mount drives ceramic tantalum cap growth

U.S. capacitor market forecast (In $ millions)

Source: Frost and Sullivan Inc.

Soda ash demand growing

The increasing number of traditional end-users, the chemicals application in flue gas desulfurization and its increasing use as a replacement for caustic soda have resulted in a growing demand for soda ash over the past two years and it's not likely to weaken any time soon.

To accommodate demand for soda ash as a replacement for caustic soda, General Chemical Corporation is undertaking two new programs. The company is now capable of either supplying liquid soda ash from regional centers or installing hydrators at user facilities.

Zinc prices are stabilizing

The steady price climb of the first quarter seems to have subsided. Supply disruptions, Cominco's Sullivan mine closure along with start-up problems at its Red Dog Mine, plus greater-than-anticipated demand from automotive and construction markets, combined to promote a 20% jump in price from January. Producer prices for high-grade zinc are now around 80 cents/pound.

Though inventories are relatively tight, supply conditions are improving which should restrain any future price advance. The current price level appears to be the result of speculation, more so than any long-run fundamental supply and demand imbalance.

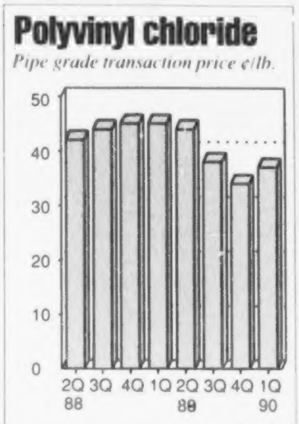
PVC prices increase again

Industry leader, Occidental Chemical Company, has called for a new 1¢/lb. increase effective May 1, which should be supported given the spring's traditionally strong demand. This follows the company's widely accepted call for a 2¢ increase in March and 1¢ increase in April.

Over the near-term, polyvinyl chloride producers will continue to recoup some lost margins from last year, when polymer was falling faster than monomer. Marketing managers, however, should anticipate a price slide during the second half of 1990, when 1.5 billion pounds of new capacity come on line.

Polyvinyl chloride

Pipe grade transaction price ¢/lb.



Aluminum shows some firming

Primary aluminum production finished strong in March. The first quarter annual rate of production was only slightly below 1989's level. Though the slowdown continues to exist for primary producers and service centers, numbers appear to be improving for both. Ingot prices are firming, but ample stock by producers and distributors, along with increasing production capacity should temper any potential price rise.

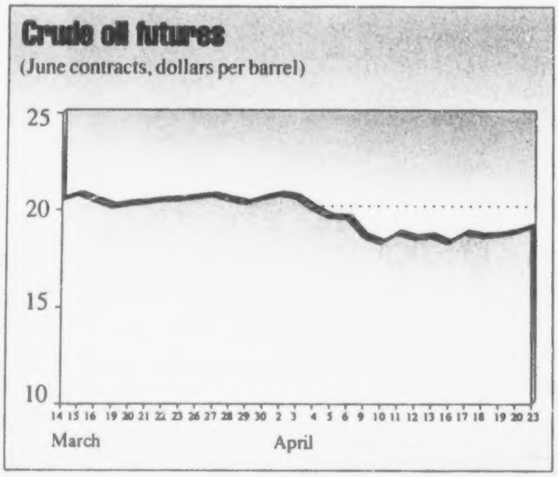
Petroleum in the 1990s

OVERVIEW: Estimates by major oil analysts and OPEC, forecast the free world's petroleum requirements to be 56.4 million barrels a day (mb/d) by the end of the century. This is a significant jump from the 49.5 mb/d required in 1988. Total oil equivalent energy requirements in the year 2000 are anticipated to be around 120 mb/d, placing the burden on oil to be approximately 47% of that total. This proportion however, is dependent on relative fuel prices, attitudes concerning nuclear power, the burning of fossil fuels and potential fuel efficiency improvements.

DEMAND: A rise in energy consumption is inevitable given the continuing rise in population. Perpetual demands from industrialized economies, combined with future needs of developing societies, will also spur additional demand.

SUPPLY: Supplies from non-OPEC sources will remain stagnant over the next 10 years. The cartel countries meanwhile, should increase their output by 10%. The industry looks to be on the verge of a new investment cycle, with OPEC beginning to undertake major downstream investments in transport, refining and marketing, while major oil companies search upstream for new reserves. This could lead to joint ventures, as the cartel has the reserves, while the major oil companies possess the technical expertise, market outlets and money.

OUTLOOK: The share of petroleum supplied by OPEC is expected to increase throughout the 1990s, prompting the question regarding future prices. The experience of the 1980s, however, should temper any unjustified price decisions of the cartel. Following the price escalation of 1979, world oil consumption fell 10% through 1983, and it took until 1988 for suppliers to regain this lost ground. With growing emphasis on research dealing with fuel substitution and efficiency improvements, petroleum prices, allowing for inflation, should remain stable. The real price of crude should remain between $18.50 and $19.50 a barrel.



Caustic soda tags increase

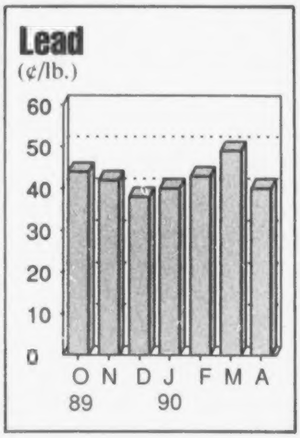
Chloralkali producers say caustic soda demand remains strong, and they are not worried about soda ash's substitutability. Though soda ash might take away some of the demand for caustic soda, producers believe that most caustic customers will remain, unless caustic soda prices increase to $400 or more per ton.

After the April 1 price increase of $5-$25/ton, producers placed regular-grade caustic soda between $300-$320/ton, depending upon geographic location.

The performance of the chloralkali industry is reliant upon caustic soda and chlorine. Demand for polyvinyl chloride (PVC), the largest end-use of chlorine, remains strong. However, if chlorine sales for PVC fall, on top of the already declining use of chlorine in the production of pulp and paper, caustic prices could tighten significantly.

Lead supplies arouse concern

Lead prices are returning to more normal levels, following near-record highs in March, nearly 60¢/lb. on the London Metal Exchange. Though the supply problems which forced the March price run-up are currently under control, they endure as sources of potential trouble. Stocks remain tight. Battery makers, accounting for roughly 80% of lead buyers, enter into their heavy buying period in late-summer. If stocks aren't there, battery makers could incite another round of rising prices.



Asphalt value, shipments rising

According to a recent study by the Freedonia Group of Cleveland, asphalt product shipments are expected to increase 3.2% annually through 1994, reaching a level of 44.4 million tons. The value of these shipments is expected to rise even faster, maintaining a 7% annual growth rate. Non-paving asphalt, whose shipments are expected to grow less than 2% annually, should experience higher value growth than paving asphalt, whose shipments are supposed to increase nearly 4% annually. The value of non-paving asphalt is forecast to increase 6.4% per year to $5.1 billion in 1994. Conversely, the value of shipments for paving asphalt in 1994 is expected to reach a level of $4.3 billion, roughly 45% of the total value for asphalt product shipments.

Furniture industry to bolster plastics demand

The furniture industry is expected to increase its demand for plastic resins 4.7% annually over the next five years, achieving a demand level of 1.6 billion pounds in 1994. Though furniture manufacturing already relies heavily on plastics, the price and performance of plastics, relative to competitive materials, will move the material into an even stronger position.

The Freedonia Group Inc., of Cleveland, anticipates research and development breakthroughs in plastics processing and properties, increases in home remodeling, and a healthy furniture market to stimulate further utilization of plastics in the furniture industry. The major reason for continued health in the furniture market is the need for office furniture in the rapidly expanding service sector.

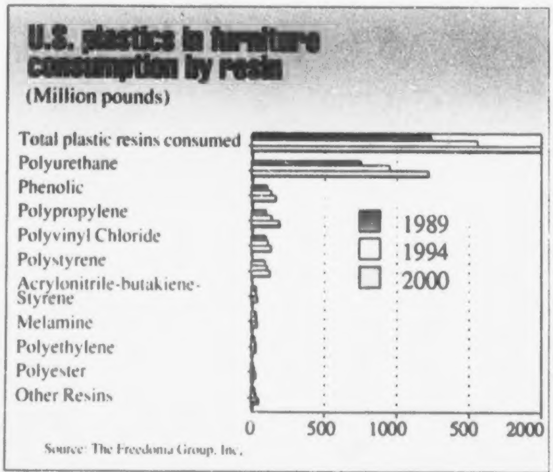
Polyurethane, which accounted for over 60% of the 1.2 billion pounds of plastic resins consumed in 1989 by the furniture industry, will continue to perform well by penetrating further into mattress, bedding, cross-sectional and cushion applications.

The report predicts that polyester will be the resin of strongest future growth, due primarily to its small base and a resurgence in upholstered furniture. Polyester demand could increase by as much as a 11% per year through 1994.

Though the furniture sector will be increasing consumption at a quick pace, supply conditions for plastics resins are expected to remain calm, given current excess capacity and new production facilities soon to come on-line.

In terms of end use, the as-yet-underdeveloped market of partitions and other fixtures should experience the greatest growth.

PurchasingWorld offers additional information on the chemical and plastics industry in a feature article in this issue.


U.S. plastics in furniture consumption by resin
(Million pounds)

Source: The Freedonia Group, Inc.

Copper prices to fall

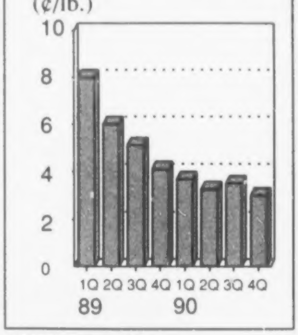
Shearson Hutton Lehman Ltd.'s "Annual Review of the World Copper Industry 1990" forecasts a gentle downward drift over the next 18 months for copper prices. Though supply disruptions are expected to continue for individual mines, with high utilization rates, labor negotiations and technical problems existing as sources of potential conflict, no threatening composite disruptions are anticipated. Shearson believes copper prices will trend toward $1.20/lb. for the first-part of 1990, then gravitate down toward $1.10 by year-end. Further drops, to possibly 95 ¢/lb., could occur in 1991, primarily due to new additions in mine capacity beginning operation.

Hydrogen peroxide demand expands

The U.S. demand for hydrogen peroxide is anticipated to expand 7.8% annually over the next five years. The level demanded will increase from 432 million pounds in 1989, to 630 million pounds in 1994. Driven by tight supplies and increasing demand, the market value for hydrogen peroxide, as reported in a recent study by the Freedonia Group, Cleveland, is expected to grow 12% annually, through 1994.

Many factors are working to promote this increase in demand, but most notable are the environmental benefits.

Nickel prices/forecast
(¢/lb.)



Nickel price to continue slide

Despite reduced production and a comeback in stainless steel production, the oversupply of nickel is not expected to diminish any time soon. The minor rally in January and February has fizzled, and it is unlikely that nickel demand will change directions. Nickel demand depends to a large degree on autos, housing and durable goods. Though the U.S. economy is stronger-than-expected, the outlook for big ticket items which require financing remains quite bearish. Many analysts see the price of nickel falling below $3/lb. by year-end. That would put nickel over 50% below its year-ago price.

Excess styrene supply foreseen

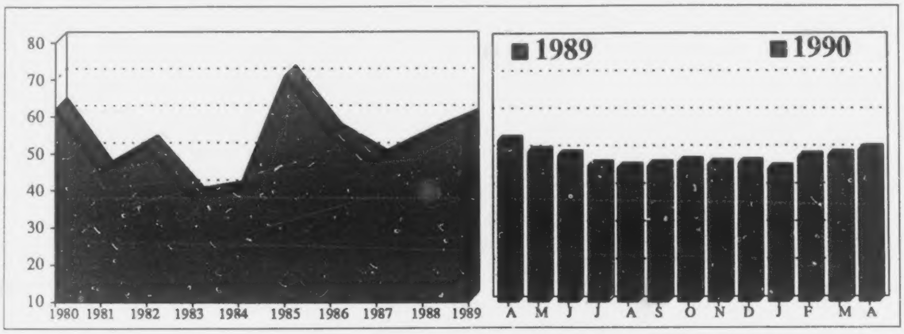
The tight supply conditions in styrene appear to be no more than a short-term aberration. Spot prices, which had been rising over the past few months have since stabilized, and expected capacity additions soon to appear are working to hold down contract prices.

BUSINESS DATATRAK

by John Sheridan, chief economics editor

N. A. P. M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Signs of recovery lead to cautious optimism

Economics is often a dismal science, but analysts wanting to target the negative are overlooking some very important signals.

Retail sales were down slightly in March, and on the surface this appears less than positive. However, without the drag applied by autos, retail sales have performed admirably this year; up 1.1% in January, 1.5% in February, and down only slightly in March. Furthermore, with a later-than-normal Easter season, retail sales should be back strong in April.

This is not to downplay problems facing the auto industry, but their dilemma is multifaceted. For instance, a Chrysler study reported that the average new car buyer saves for over three years to afford a downpayment, then needs to take out a five year car loan. These are not minor drawbacks. Worse yet, reports are that many banks have recently raised new car loan rates, though the prime rate and federal funds rate remain unchanged. Tighter lending standards have the potential to dampen new car sales further, but a new round of advertising and incentives is about to get underway, working to neutralize the effects of tighter credit.

Explicit strength in the economy is most clearly seen through the unemployment figure and a pick-up in manufacturing. The civilian unemployment rate fell to 5.2% in March, after ten months at 5.3%. The drop was attributed mainly to continued growth in service payrolls and government's hiring of census workers. Though unsustainable, the rate clearly signals no employment problems, especially since manufacturing production is rebounding.

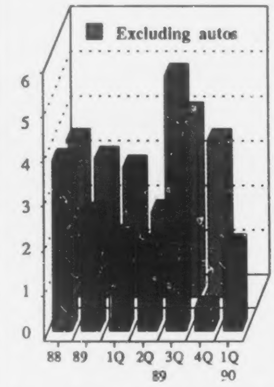
Marginal increases in both industrial production and capacity utilization during March, the fact that consumer spending is increasing at nearly a 2% annual rate, along with increases in durable goods orders during the past two months, all reflect an economy pulling itself out of a period of slow growth. Moreover, some analysts believe corporate earnings are better than they currently appear since many of the earnings reports first out represent those industries hardest hit by the slow growth economy.

The fact that inflation still exists doesn't mean that the soft-landing scenario has failed. Quite the contrary, as Fed Chairman Greenspan's objective has been to get inflation under control without throwing the economy into recession. The overabundance of theory based zero

Leading indicators

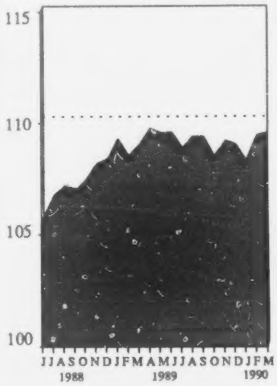
Consumer spending

Percent change, s.a.a.r.



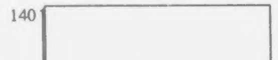
Manufacturing production

Seasonally adjusted index of manufacturing production. 1987=100



Durable goods

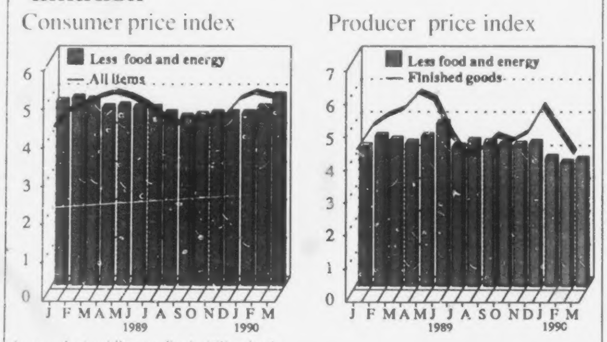
In billions of dollars



Source: The Federal Reserve Bank of Cleveland and the Wall Street Journal inflation literature, without any accompanying cost/benefit analysis utilizing historical data, holds little value. Never has inflation been reduced significantly without the economy experiencing a recession. Finally, though the Fed is independent within the government, it is in no position to go against the wishes of the Bush Administration, which desires solid growth and an accommodating monetary policy. All this favors a feeling of cautious optimism for near-term economic performance.

CURRENT PRICES

Inflation



Source: Federal Reserve Bank of Cleveland

Mixed signals disguise trend

The two monthly barometers of inflation, the consumer price index (CPI) and the producer price index (PPI), are highly volatile, making it dangerous to place too much emphasis on numbers from any one month. Confusing the issue even more, these indexes can give mixed signals.

The PPI measures prices received by factories and other producers. Over the past two months, the PPI has clearly signaled an easing of inflation pressures. After the transitory shock food and energy applied in January — the result of bitterly cold December weather which destroyed crops while straining fuel supplies — inflation as measured by the PPI has stabilized.

Conversely, inflation, as reported by the consumer price index, has some analysts deeply concerned. The CPI measures inflation by the cost associated with an urban family's purchase of goods and services. In January, the CPI also fell victim to the food and energy shock, but expectations were that future levels would be milder. Another unexpected shock arrived in February, this time in the form of soaring apparel prices. In March, apparel prices rose sharply again, accompanied by higher-than-expected increases to service sector purchases, especially medical costs.

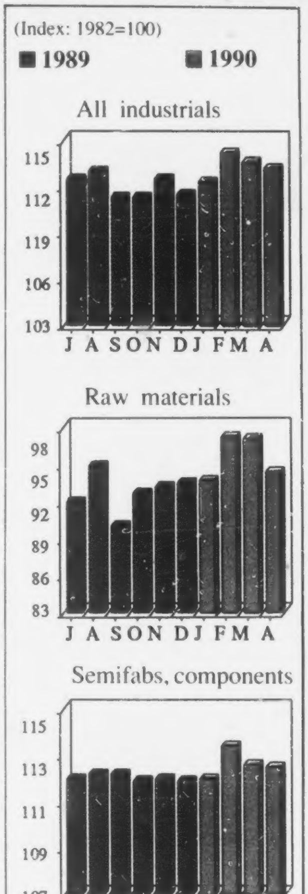
The important point is that recent increases to the CPI index are mainly the result of transitory shocks. Already price drops are being observed in both food and energy. Clothing prices are likely to show a sharp drop when March or April numbers come in. The reason: an earlier-than-usual introduction of spring and summer clothing was not accounted for by the Department of Labor's seasonal adjustment factor.

One of the reasons the PPI and the CPI differ is that the PPI does not include the cost of services. The real problem with inflation lies in the service sector. Since 1982, price increases for consumer services have exceeded advances in consumer commodities by about 2% each year. Medical costs continued their ascent in March, and over the past year have risen 8.6%. Wages and benefits are also working to stimulate price pressures in the service sector.

Industrial prices were down slightly in March, chiefly because of the price drop in energy supplies. Foundry and forge shop products, construction materials, textile mill products, nonferrous metals, copper and brass mill shapes, and plastic resins and materials showed slight increases. Declines were reported for synthetic fibers, gasoline, residual fuel oils, inorganic and organic chemicals, and flat glass.

It appears that there are no inflation pressures building on the supply side. Unless the economy picks up significantly, leading to a greater-than-expected increase in demand, expect prices to level off once the early-year shocks work their way out of the system.

Industrial prices



Source: Bureau of Labor Statistics

Machine tool orders

After five months of relatively no change, machine tool orders in March rose to $265.9 million, a 36.6% increase over February's $194.55 million level. Though machine tool orders finished the first quarter strong, compared to 1989 quarter one they were down 17.6%.

For the time being, shipments remain solid; up 7.8% in March from February and up 13.9% year-to-date. However, the steady growth in shipments over the past 18 months, driven by the big order surge of 1988 and early 1989, may be fading. Whether new orders pick up the slack is yet to be seen. Compared to March 1989, 1990's shipping level was down almost 6%.

Machine tools include lathes, as well as complex machines, many of which are computer controlled. They are used in cutting or shaping operations. As such, they serve as a good indicator of factory investment.

To some, the less-than robust machine tool spending is very troublesome. Domestic durable goods manufacturers still aren't buying machinery as aggressively as they once were. President Albert W. Moore stated, in the latest news release from the NMTBA, "we are concerned about our domestic manufacturing base. America's apparent reluctance to invest in the face of strong global competition contrasts with foreign manufacturers—who are investing heavily, in modern, productivity-improving machines. Foreign manufacturers invest while we in America sit on our wallets—steadily losing competitiveness."

Recent capital spending forecasts are not very optimistic about a domestic acceleration in machine tool investment either. According to the Commerce Department's latest survey, capital spending overall is expected to rise 7.8% in 1990. Durable goods producers, however, who purchase the majority of machine tools, are expected to increase investment only 2.1% above last year's level.

PROCUREMENT STATUS REPORT

Turning point in NAPM index

The latest release of the National Association of Purchasing Management provided additional ammunition for inflation hawks. The trouble is inflation fighters are looking only at that information which supports their position.

The survey, representing approximately 300 corporate buyers, reports an economy pulling out of a slow growth period. It is a far reach at this time to conclude anything more. The NAPM index rose above 50 for the first time in 12 months, symbolizing an expanding economy, as seen by the survey participants. The question is, how expansionary is an index of 50.2%. The direction of the index is clear—things are not as bad as they were. Whether the 50.2% index represents a turning point toward an accelerated take off, remains to be seen.

The big picture still supports a buyer's market. Indications are, that though economic activity has picked up, prices will remain stable. Purchasing managers reported prices for industrial raw materials to be up slightly in April. This, however, after a year of falling raw material prices.

There appear to be no supply pressures building at the production level. According to the buyers, orders hit a 14-month high in April. Given this and the fact that inventories have been kept under control since the beginning of the economy's slow growth period, an increase in factory activity is not surprising. Capacity utilization rates certainly aren't peaking and the producer price index shows no signs of altering its gradual descent.

Not surprising, most commodities remain well-supplied and purchasers report no delivery troubles. According to NAPM survey participants, deliveries from suppliers quickened again in April, with leadtimes for production materials, capital expenditures and MRO supplies falling. On the NAPM short supply list were, most notably, timber, bearings, castings, soda ash, caustic soda and hydrogen peroxide.

Purchasing managers reported lower prices for steel, plastic resins, fuel oil, natural gas and stainless steel, but higher prices were said to exist for copper, aluminum, polypropylene, zinc and nickel. PW Predicts section explains why the outlook is bright for these commodities recently displaying higher prices.

Though the economy's output level shows improvement, it is still below the long-run trend. Statistically, when the margin (current output) is below the average (long-run output trend level), there exists no upward pressure on supplies. Industry operating rates will display some rise, but they should remain below the 85% beacon, traditionally standing as the median between a buyer's and sellers' market. Expect the buyers' market conditions now in place to remain.

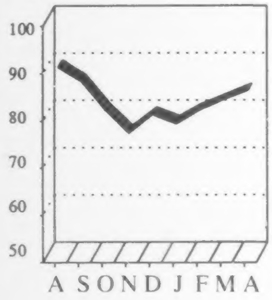
Collective bargaining

In 1990, nearly 36 percent of the unionized work force will see their contracts expire. Of all months, June will be the most active. For collective bargaining agreements covering 1000 workers or more, over 185 situations, representing more than 583,000 workers, expire this month. In terms of workers, this represents roughly 30% of this year's total.

New contract settlements in 1989 provided for larger wage adjustments over their life than the contracts they replaced, the first time since

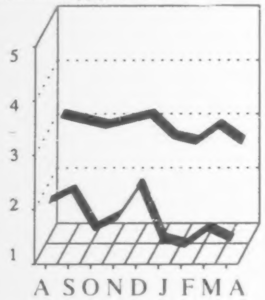
Steel

Operating rates



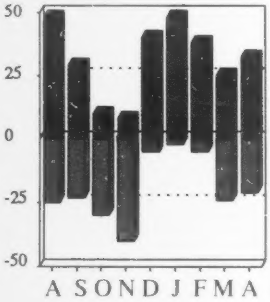
Inventories

(Months supply on hand)

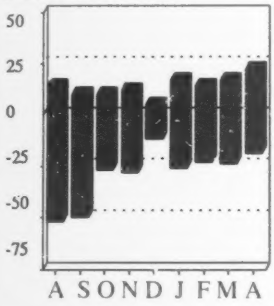


Demand (STEEL SERVICE CENTERS)

(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

1981. The average wage and salary increase was 3.6%. This was a substantial rise over most settlements during the previous 9 years, due primarily to restoration of previous wage cuts in steel, labor supply shortages in health services and generous benefits in areospace.

Unions won no big battles during the 1980s, and its unlikely, even if the economy begins to pull itself out of a period of slow growth, that labor will experience great success now. Nevertheless, June will be an exciting month for the following sectors:

	Situations	No. of workers
Metal mining	1	3400
Construction	23	40000
Apparel	1	2800
Paper and allied products	3	4220
Primary metal industries	2	2300
Maritime	4	22500
Transportation equipment	3	22650
Industrial and commercial machinery	2	6200
Electric, gas and sanitary services	6	15237
Services	5	13650
Finance	1	4500

STEEL SCENE

First quarter is favorable

Steel shipments from mills to the four major end-markets varied during the first quarter, with construction and service centers performing better than expected. In April, autos and machinery also showed a pick-up in new order activity.

Shipping levels by the nation's steel service center industry, which accounts for over 20% of all direct purchases, were up 4.6 percent over fourth quarter 1989. Even more impressive, since the first two quarters are usually the bellwether for steel service centers, the daily shipping rate for all products in the first quarter of 1990 exceeded 1989's first quarter level by 1.5 %.

According to the latest survey of the Steel Service Center Institute (SSCI), Cleveland, 90% of the members polled now expect general economic activity to hold steady or increase next quarter. Andrew G. Sharkey, SSCI president, commented, "In aggregate, metal consumption has been much greater through the first three months than most steel service center executives anticipated. Based on the strength of the first quarter, many are upgrading modestly their forecasts for 1990."

Though automotive demand was sluggish during the first three months of 1990, many industry analysts believe the worst is over. In fact, the Philadelphia researchers at Wharton Econometric Forecasting Associates (the WEFA Group) anticipate a 20% uptick in auto output during the second quarter.

A large portion of manufacturing outside of autos also seems to be gaining momentum. Moreover, significant backorders for durable goods, excluding defense, exist at the national level.

Construction, by WEFA estimates the largest end-consumer of steel products, accounting for 27-30% of total consumption, saw a 12.1% increase in January *versus* a year-ago. The major reason for this advance—favorable weather. Though this pace is unsustainable, new construction plans should promote solid demand from this sector, throughout 1990.

The inventory-to-shipment ratio for producers climbed to 2.35 months in

Import prices

(Compared to domestic)

Steel buyers

ABOVE 58%
SAME 28%
SLIGHTLY BELOW 14%
SUBSTANTIALLY BELOW 0%

SERVICE CENTERS (carbon)

ABOVE 4%
SAME 70%
5-10% BELOW 26%
10-20% BELOW 0%
OVER 20% BELOW 0%

February, the second highest level in approximately four years. This level, however, is not as bad as it initially appears. Producers made a strong attempt in the fourth quarter of 1989 to reduce stocks and the holding positions of the major buying sectors appear quite good. Therefore, though producers' stocks are higher-than-desired, the system overall is in good shape. In fact, the pick up in buyers orders should be enough to lower producer inventories while simultaneously stimulating a step-up in production.

This month's breakdown

Index 1982=100

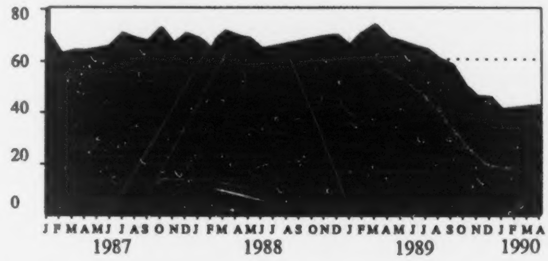
	Latest level	% change from: month ago	year ago
Bearings	130.1	0.0	5.1
Bolts, nuts, etc.	116.0	0.4	6.4
Chemicals, inorganic	111.0	-0.4	3.1
Chemicals, organic	111.5	-0.9	-6.5
Concrete products	112.3	0.1	1.4
Corrugated cartoons	110.7	-1.1	-1.2
Cutting tools, small	112.9	0.1	3.1
Electrical lamps (bulbs)	130.5	0.2	5.2
Electronic components	118.4	-0.1	-1.0
Fans and blowers	122.5	0.3	4.3
Foundry and forge products	116.5	0.8	2.1
Fuel oil (residual)	55.2	-0.7	26.9
Furniture, commercial	132.4	0.0	3.9
Gasoline	65.8	-2.1	11.3
Glass, flat	108.1	-0.6	-1.5
Glass containers	119.5	0.3	5.0
Gypsum products	106.4	0.4	-3.4
Hand tools	133.9	0.5	5.8
Hand tools, power driven	120.1	0.0	3.5
Industrial furnaces	126.8	0.2	3.3
Integrating and measuring instruments	125.8	0.8	7.7
Internal combustion engines	117.6	0.0	4.3
Lubricating oil	116.1	0.4	8.9
Lumber millwork	129.8	0.4	2.8
Material handling equipment	113.9	0.3	3.5
Metal containers	114.8	1.4	4.6
Metal mill shapes (nonferrous)	130.0	0.5	-8.0
Metal tanks	113.7	-1.8	3.4
Motors and generators	132.8	0.5	3.3
Motor trucks	130.7	0.2	1.3
Office and store equipment	110.7	-0.3	1.5
Paperboard	138.5	0.1	-1.4
Paper boxes and shipping containers	130.7	-0.4	1.7
Paper office supplies	120.9	-0.3	-0.2
Paint	123.1	0.6	4.6
Plastic resins	122.5	1.2	-12.9
Precision measuring tools	128.6	1.3	2.6
Pumps and compressors	117.7	0.0	3.6
Refactories	122.1	0.5	2.4
Rubber belts and belting	119.5	1.9	7.6
Scales and balances	108.7	0.6	2.4
Steel products	112.7	0.0	-1.7
Switchgear	123.4	0.7	4.4
Textiles, synthetic fibers	107.4	-0.5	5.7
Textiles, gray fabrics	118.0	-0.2	3.5
Tires and tubes	97.2	1.3	0.1
Transformers and power regulations	120.6	0.4	4.0
Welding equipment	125.9	0.2	3.5
Wire and cable	140.6	2.0	-5.0

NAPM procurement trends

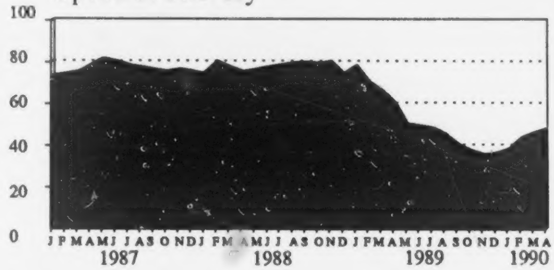
(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward s lower deliveries is similarly interpreted.

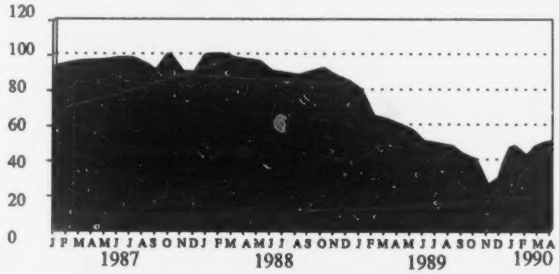
Inventories



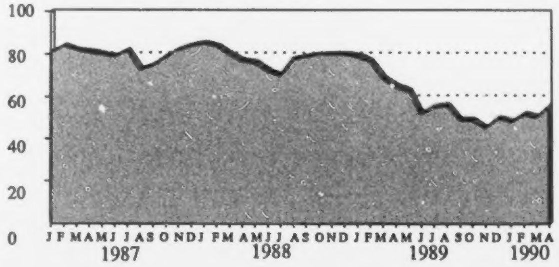
Speed of delivery



Price



New orders

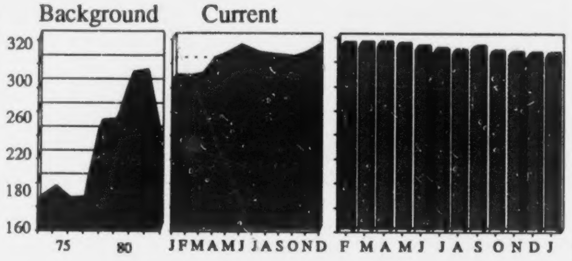


BUSINESS DATATRAK

Raw material price barometer

(Index 1967=100)

Last month 304.0
Month before 301.1
Year ago 334.6



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, dlvd. Phila.,cwt., merchant quality	18.70	18.70	18.70
Steel, bars, Pitts., cwt.	18.70	18.70	18.70
Steel, bars, C.R., Pitts., cwt.	23.95	23.95	25.20
Steel, plates, Pitts., cwt.	23.25	23.25	23.25
Steel, plates, H.R., Pitts.,cwt.	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt.	30.65	30.65	29.65
Steel, strip, C.R., Chi., cwt	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb.(market place)	0.71	0.73	0.94
Antimony, N.Y., dealer, lb.	0.85	0.84	0.99
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, (sheet), lb.	1.88	1.88	2.13
Brass, yellow, (sheet), lb.	1.84	1.84	2.09
Cadmium, N.Y., dealer, lb.	4.40	4.40	7.10
Copper, electrolytic, wire bars, refd., lb.	1.31	1.25	1.50
Copper sheet, over 24 in., lb.	1.97	1.97	2.22
Lead, common, N.Y., lb.	0.56	0.56	0.35
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl.	285.00	285.00	295.00
Molybdenum, oxide, dealer, lb.	3.22	3.22	3.72
Nickel, cathode, dealer, lb.	4.25	4.25	6.98
Platinum, dealer, oz.	479.00	475.00	523.00
Silver, N.Y., oz.	5.07	4.98	5.80
Tin, N.Y., dealer, lb.	3.04	2.92	4.40
Zinc, prime west, East St. Louis, lb.	0.83	0.80	0.90
Zinc, die casting alloy, No. 3, lb.	0.91	0.89	0.98
PAPER			
Uncoated book #3 offset, ton	940.00	940.00	1020.00
Watermarked bond, ton	1090.00	1090.00	1095.00
Gummed sealing tape, carton	19.02	19.02	18.86
Solid bleached paperboard, ton	830.00	830.00	730.00
Kraft linerboard, 42 lb., unbleached, ton	410.00	410.00	410.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	0.29	0.29	0.28
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.24	1.24	1.22
Cotton middling, 1", N.Y., lb.	0.71	0.71	0.60
Printcloth, 48", 80x80, N.Y., spot yd.	0.50	0.50	0.50
Army duck, 37", 13 oz., yd.	1.49	1.49	1.50
Blended printcloth, 64", 78x54, yd.	0.76	0.76	0.75
20s combed yarns	1.85	1.85	1.80
Wool 64s, staple, lb.	3.00	3.00	3.75
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	81.50	95.00	123.00
Benzene, petroleum, tanks, Houston, gal.	1.28	1.25	1.50
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, USP, 37%,(12%-15% meth.),, tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, tanks, lb.	0.80	0.80	0.79
Methanol, syn., tanks, 4000 gals.,, f.o.b. Gulf Coast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, tanks, lb.	0.33	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.38	0.38	0.49
Polypropylene, homopolymer grade (market price), lb.	0.37	0.37	0.46
Polystyrene, general purpose grade (market price), lb.	0.49	0.49	0.59
Polyvinyl cholride, pipe grade,, (market price), lb.	0.31	0.31	0.44
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	0.38	0.38	0.49
Sulfur, crude, ex-terminal, Tampa, FL, lt.	123.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.75	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	0.95
Xylene, Gulf Coast, spot, barge, gal.	0.90	0.87	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	354.22	350.78	326.95
Lumber 2x2 pine, mbf, cl	333.38	327.20	321.47
Plywood, plyform, 3/4", msf, cl	658.58	638.00	570.00
Plywood, 5/8", msf, cl	379.25	400.57	370.22
Cement, bulk, ton, tl	62.72	62.72	63.88
Sand, ton, cl	6.97	6.97	7.17
Ready-mix concrete, 3000 psi/cu. yd.	47.95	47.95	48.81
Crushed stone, 1.5", ton, cl	6.43	6.40	5.84
Concrete blocks, sand/gravel, 8"x8"x16",, per hundred	91.64	91.64	87.17
Reinforcing bars, whse base; per cwt.	21.88	21.88	21.32
Asphalt paving AC-20	108.01	108.01	108.53
Concrete sewer pipe, 24", prem. joint,, per ft., cl	17.91	17.92	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	18.60	20.30	20.40
Diesel (reseller rack, Chi.), gal.	0.55	0.57	0.51
Feul oil No. 2 (N.Y.), gal.	0.58	0.59	0.56
Fuel oil No. 2 (Gulf spot), gal.	0.51	0.53	0.48
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	20.50	20.50	18.75
Gasoline (prem unlded N.Y.), gal.	0.71	0.72	0.70
Gasoline (reg unlded N.Y.), gal.	0.64	0.65	0.59
Kerosine (reseller rack, Chi.), gal.	0.64	0.65	0.60
Propane (Mt. Belvieu, TX), gal.	0.24	0.24	0.22
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	103.00	103.00	114.00
Steel, No. 1 hvy., dlvd., Chi., ton	110.00	110.00	113.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.07	1.15	1.19
Copper, No. 2, East, wholesale buy, dlvd., lb.	0.97	1.06	1.12
Brass, red, East, wholeale buy, dlvd., lb.	1.10	1.10	1.16
Brass, yellow, East, wholesale buy, dlvd., lb.	0.57	0.57	0.61
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	0.51	0.51	0.65
Alum., mixed clip., E., wholesale buy,, dlvd., lb.	0.56	0.51	0.72
Zinc, old East, wholesale buy, dlvd., lb.	0.30	0.30	0.38
Lead, clean solids, East, wholesale buy, dlvd., lb.	0.24	0.24	0.23
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	-20.00	-20.00	Nom.
Old white ledger, Chi., ton	75.00	75.00	75.00

[Sources: Metals week, American Metal Market, Engineering News-Record(20-city averages), The Wall Street Joumal, Journal of Commerce, Chemical Marketing Reporter.]

Readers ask Dr. Ken • Pay isn't keeping up
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THE BUYER'S MAGAZINE
JULY 1990

The Economic Summit

James Coons
Huntington Bancshares
Tom Swanstrom
Sears Roebuck &
Company
Dr. Richard Vedder
Ohio University
Stuart Hoffman
PNC Financial Corp
Jean Bratton
The Timken Company

Take a look at:
- *Next 6 months*
- *Next year*
- *Macro-models*
- *Global perspective*

CONTENTS

July 1990, Vol. 34, No. 7

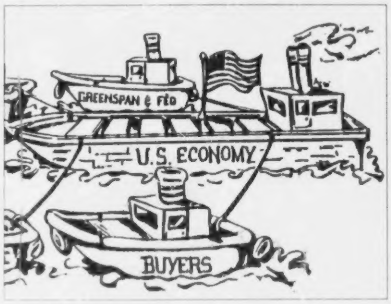
COVER STORY

20 The Economic Summit
Four respected private-sector economists take a look at what's happening with American business conditions and what purchasing pros need to know in the remaining months of 1990.

23 U.S. and the international arena
How does the U.S. stack up against other players in the world economy?

27 Steering the ship into 1991
Dr. Richard Vedder, a distinguished economist, examines the factors influencing our business economy as we begin preparing for 1991.

30 Econometric models reassuring
The WEFA Group, Merrill Lynch, and McGraw-Hill's DRI unit each put together models of the economy: how do they compare? Here's a rundown.



Dr. Richard Vedder talks about the US economic ship's direction. Page 27

Timken economist Jean Bratton gives her views on the economy. Page 20

FEATURES

31 NAPM celebrates 75th anniversary
New Orleans was the place for NAPM's jubilee conference this year.

32 Modular tools offer versatility
An interesting trend in the power tool market is modular tools, which offer manufacturers not only flexibility, but a method to improve quality.

36 Readers say
Two recent *PurchasingWorld* surveys show that buyers don't feel their pay has kept up with their growing job loads, but the new tools of the electronic office are helping them hold back the tides—somewhat.

DEPARTMENTS

3 PW Pointers

4 Editorial

5 Inside purchasing

7 PW Predicts
Gold prices turbulent; coal still important

11 Business datatrak
Consumers show path through economic data; service centers in transition; regional economic perspectives

42 Buying for the office
What causes printhead problems

44 Negotiations
Final article in the R&D buying series.

45 Transportation
Intrastate regulations are a problem for shippers.

46 Purchasing software
The legal aspects of software agreements.

56 Management
Robert Janson, C.P.M., discusses management improvements

58 New products

60 New literature

64 Advertisers' index

65 Classified

68 Purchasing and the law
Know what terms control the deal.

PurchasingWorld

EDITORIAL

Getting yours

Work may expand to fill the time available to do it, but there is a point at which too few heads (and hands) can never do the job properly.

That thought unfortunately is not the one expressed about the time that the next corporate turnaround is being planned by management or new ownership.

Cutting fat out is one thing. Taking muscle out is another. In the restructuring of American industry that followed the dismantling of major U.S. manufacturing corporations through leveraged buyouts, that rationale was more a reason, than reasoned.

In fact, while we are busy congratulating ourselves about how much more competitive U.S. manufacturing has become, we haven't noticed that the average work week has increased from about 32.5 hours in the early 1970s to almost 52 hours per week today. The promise or fear of a society in which leisure time is going to overwhelm the American workforce is, it would seem, at an end. Not that the idea of a 32 hour work week was such a good one in the first place.

Pick up your favorite business journal. We are proud of the wisdom and wiliness of our companies who have weathered some of the worst of times (the recessions of 1980 and 1982) and come back fighting, lean and mean. Metals companies have recovered from a downturn so precipitous that they had to look back to the Great Depression of the 1930s for a more disastrous time.

But U.S. manufacturing has become competitive for many reasons. It has invested in the latest technology. It has learned to care about quality and customers the way successful foreign competitors do. Some industries have fought for government help when they knew they were up against foreign competition subsidized by foreign governments.

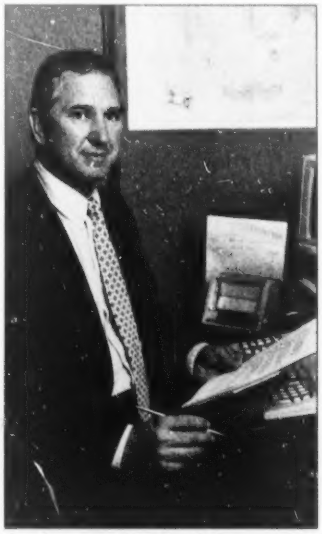
To our credit, U.S. manufacturing has rebounded in the face of odds that were lengthened by our own unchallenged dominance for so many years.

But the new skinnied and flattened-down manufacturing company has put a lot of pressure on the front line troops. Supervision and production line workers are feeling it. The impact on the depleted ranks of middle management is being documented in articles in the business press.

The purchasing department is feeling it too. According to two recent reader surveys, our purchasing readers say they are carrying a larger work load today than ever before. In spite of the fact that their departments may be more streamlined because of computerization, EDI, and office automation, they say they are understaffed for the responsibilities they carry.

Purchasing professionals are spending more of their company's dollars and handling a wider range of buying responsibilities and product categories than ever before. Their responsibilities are being expanded to other areas, such as buying services, or, as one respondent put it, even buying for an additional plant location.

And, if you hadn't guessed it, they say that their compensation has not kept pace with their increased job load.



I can't think of a better time to document purchasing department performance, especially the 10-15% reduction in purchasing expenditures that using the latest techniques of purchasing management can produce.

Purchasing departments have cut a lot of the fat out. You're leaner and meaner. Prove you're working harder and smarter.

Jim Lorincz

PW PREDICTS

Beware deceptive statistics

Gross National Product (GNP) is the market value of all goods and services produced by an economy during a specific period of time. For policymakers, it serves as an indicator of economic activity, economic well-being.

Everyone agrees that economic growth is essential for economic well-being and a rising standard of living. However, what is sometimes overlooked is that growth in excess of an optimal level is just as bad as no growth at all.

Excessive growth incites inflation, creating the boom-bust, business cycle scenario that traditionally stimulated market correction in the form of recession. The greater the boom, the greater the necessary correction. Note that it is the original acceleration in monetary growth, either actively engineered or passively permitted by the Fed, which acts as the catalyst for the boom-bust chain reaction.

By any measure, both fiscal and monetary policymakers have succeeded in keeping the current expansion going.

Under Chairman Alan Greenspan, Federal Reserve policy has primarily focused on maintaining a sustainable, noninflationary level of real GNP. Historically, this means limiting real GNP growth of 2.5%-3% per year. Real GNP accounts for price changes, thereby making this proxy for growth the direct result of differences in physical output only.

Many business people are worried that first quarter GNP and inflation levels, both higher than expected, could force further tightening by the Fed. First quarter real GNP growth was initially reported at 2.1% but has since been revised down to 1.3%. The original value was nearly twice the rate recorded in the fourth quarter of 1989. Insight suggests that when the members of the Federal Open Market Committee meet this month, they will be enlightened enough to leave policy alone, for they understand that statistics can be deceptive.

Preliminary first quarter GNP clearly signaled a rebounding economy. The figure gave no insight, however, to the duration of the rebound or the potential for an acceleration in growth. Moreover, the current figure will go through another revision, after more reliable data becomes available. Upshot 1: a closer look at first quarter GNP reveals an economy which is not as strong as the preliminary figure suggested. Upshot 2: inflation as measured by the major price indexes will subside over the next 18 months.

What is not so apparent in GNP, which records only the money spent on goods and services, is the wealth that is lost. A series of natural disasters which hit the economy in late 1989, Hurricane Hugo in September and the Bay Area earthquake in October, stimulated a higher first quarter GNP than would have otherwise occurred. Disasters are good for GNP because rebuilding inflates the total. Losses from these two disasters were never deducted from GNP or even offset against the value of new restoration. How much of the $21.7 billion increase in real GNP was the result of restoration is unclear, but it could be as high as 25 - 50%.

Measuring the performance of the economy is only slightly more important than the need for an accurate evaluation of inflation. Unfortunately, all three of the major price indexes, the consumer price index (CPI), the producer price index (PPI) and the GNP implicit price deflator exhibit internal biases, the result of their construction. To analyze inflation properly, more information is required than simply tracking each index's base number. Without knowledge of both the weight and movement of individual components included in each index, these inflation barometers can, at times, be very misleading.

This is currently the case, as early-year shocks by the heavily weighted components of food, energy and apparel skewed the indexes. In addition, the price indexes do not adjust for changes in price which result from quality improvements, nor do they compensate for substitution possibilities. The consumer price index, for example, measures the price change for a fixed basket of goods. If substitution is possible between goods, this fixed basket may not accurately reflect an individual's true cost of living.

Along with economic shocks which jeopardize an accurate analysis of the economy's rate of growth and inflation, deterioration in data collection must also be taken into consideration. Michael J. Boskin, chairman of the President's Council of Economic Advisors, has officially commented that improvements in data collection need to be made in order to provide the same degree of accuracy in today's complex economy as was provided in the past.

Skilled economists can, however, track trends relatively accurately. By analyzing the long-run tendency of economic variables and tempering this with current developments, accurate conclusions can be drawn as to which direction economic activity will gravitate.

Recognizing the need that decision-makers possess for reliable information, this issue of PurchasingWorld provides insight from leading economists, purchasing experts and econometric forecasting models on the forthcoming business environment.

By John Sheridan

Gold prices are turbulent

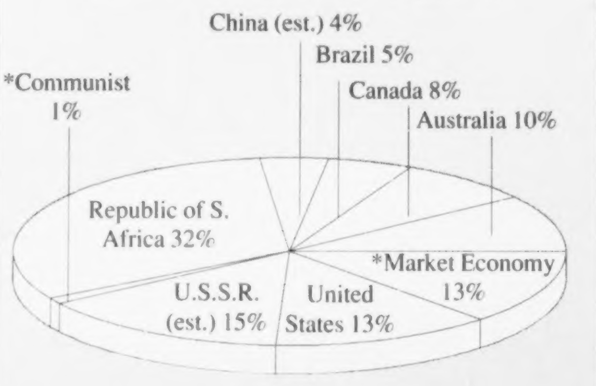
Overview: Gold rose over 18% from mid-September 1989 to late January 1990. In January, the price on gold per ounce stood at $425. Profit taking in March, however, stimulated a decline in gold to $389 an ounce. In the last two months, gold prices have trended further down, as Saudi Arabians have been engaging in heavy selling. In late May, an ounce of gold sold for roughly $360.

Supply: The rate of growth in mine production is slowing. Shearson Lehman Hutton Ltd., London, expects gold production to increase 2.6 percent through 1992, after surging 5.5 percent during the past 5 years. Production costs will keep a floor on prices. In 1989, South African production costs were roughly $285 an ounce, while production costs in the United States were approximately $225 an ounce. South Africa, the world's largest producer, could experience decreasing levels of production through 1991 due to declining grades, labor problems and lower profit margins. Production from Communist and former Communist Bloc countries will stabilize new supply, but advances are unlikely.

Demand: The economies of the world are slowing and are expected to remain slow through at least 1991. This situation is likely to ease jewelry purchases over the next 18 months. With inflation levels persisting in the United States and rising in Japan and Germany, gold could be looked upon favorably as a stable means of long-term investment. The industrial sector could also stimulate minor price rallies, due to changing physical demand requirements.

Outlook: Shearson analysts expect gold prices to average $395 an ounce in 1990, up from $381 an ounce in 1989. Their expectations are that gold prices will ascend further in 1991 and average $410 an ounce. In the very near-term, however, gold prices might drift as low as $350 an ounce, creating an excellent investment opportunity.

World Gold Production - 1989



Source: U.S. Department of the Interior, Bureau of Mines

Linerboard soft into 1991

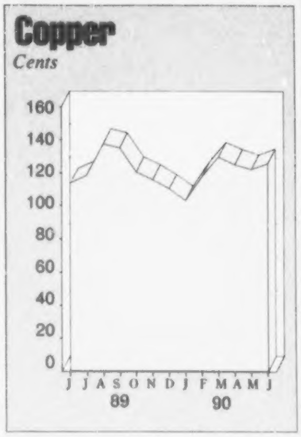
Two factors primarily determine demand: domestic corrugated box production and linerboard export shipments. Corrugated box production has been easing since 1989 and should remain soft through at least mid-1991. Linerboard prices tend to be firmest when operating rates exceed 95%, as they did in 1987, 1988 and most of 1989. Industry operating rates are now below 95%. Moreover, massive capacity investment is arriving, which the slow-growth market can not absorb. The list price of 42 lb. kraft linerboard, which in June stood at $370-$380/ton, will drift lower unless there is a strong upturn in economic activity. Look for the price to plateau in the area of $350/ton sometime in 1991.

Copper prices are chaotic

The price of copper has moved steadily upward in 1990. Whether it's Chile, Peru, or the Far East, labor, technical and environmental problems have produced their share of supply shocks. Moreover, demand for the metal remains strong, in a period that was expected to be lackluster at best. As a result, inventories are lean. In fact, they are near historically low levels.

This supply and demand combination has supported a more than 40% increase in prices since January, with the price now around 1.25¢/lb. Right now, copper is clearly the most volatile of metals. The latest news release is likely to determine the metal's price for some time. Don't expect demand to weaken, so any price easing will have to be initiated from the supply side, which is chaotic at best.

Copper



Steady increase in commercial clay

Though common clay will display growth of less than 2% annually through 1994, kaolin and fuller's earth will stimulate the industry's average demand to over 3%. According to Kimberly Kovach, an analyst at The Freedonia Group, Cleveland, kaolin will grow 7.1% per year with fuller's earth growing 6.4% yearly through 1994.

While kaolin accounts for only 19% of the industry's tonnage, it represents 65% of clay's sales value. Conversely, common clay constitutes over 65% of tonnage and less than 10% of value. Domestic demand and exports, primarily to Japan, are expected to spur kaolin price increases to $112 per ton by 1994.

Coal still meets needs

Overview: Though demand might grow only moderately in 1990 and many financial wizards are viewing the coal industry with skepticism, windows of opportunity are beginning to appear. Despite the challenges presented by alternative fuel sources and additional clean air regulation, signs point to a stable market in 1990, followed by strong growth through 1995. Currently, production is rising and inventories remain low.

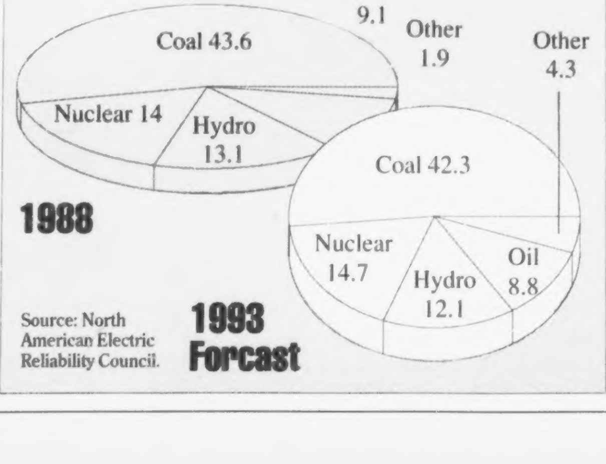
Demand: The electric utility sector will be the driving force behind coal demand in 1990. Supported by the relentless demand for electricity, coal production is expected to increase 2.1% this year. Growth in electricity sales to the industrial sector will increase moderately over the next 6-12 months, but manufacturing activity should rebound by mid-1991. Already raw steel production shows signs of rejuvenation.

Supply: Coal supplies are relatively plentiful. Historically, coal prices follow oil prices, and despite the real possibility of temporary oil shocks, coal prices are expected to remain stable through 1995. A greater threat to the price of coal comes from revisions to the Clean air amendments. Another factor, however, will be working to increase coal's market share—little increase in nuclear power is coming on-line this decade.

Opportunities: Environmental concerns also present opportunities. Coal cleans water and a lot of contaminants can be treated by carbon absorption. In the next ten years, water quality will be a significant issue.

German unification, along with the establishment of the European Economic Community in 1992, should end some of the existing trade barriers that domestic producers have faced overseas. The result, though the pie isn't necessarily going to grow, the U.S. share should. The U.S. Energy Information Administration anticipates that U.S. producers could gain $700 million in new European export revenue.

Projected U.S. generating capacity, by fuel type



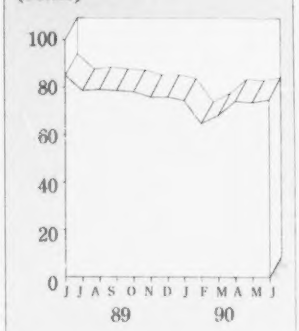
Source: North American Electric Reliability Council.

Sulfur market shows uncertainty

Following two years of transition due to unforeseen demand fluctuations, the sulfur market is now stable. This calm could turn stormy though, as global factors unravel. Canadian material remains a concern for U.S. producers. Canada exports roughly 90% of its sulfur, which if not sent to phosphate producers in North Africa, Australia or Brazil, could enter the U.S. market, quickly driving prices down. Domestic prices have been stable, around $123/ton, since last December. Global demand is expected to begin rebounding and, propelled by increasing fertilizer consumption, should remain strong through 1993. Expect domestic tags to firm slowly as prices around the world gradually increase over the next three years.

Aluminum firming to 85¢/lb.

Aluminum
(cents)



Mill product orders through the first five months are in-line with that of the previous four years. The industry is solid volumewise but no upward pressure on prices is expected. Prices for ingot and scrap have been falling since last spring. In these areas, supplies are loosening and orders are slowing. Inventory increases are beginning to appear at the alumina refineries, but there has been inventory slippage by mills, despite the high production rates of aluminum smelters. Demand is expected to continue growing moderately through year-end, supported by solid exports. With little new capacity coming on stream this year, the market will continue to gradually firm, with the average price moving towards 85¢/lb. in 1991.

Imports to lower styrene price

The domestic styrene market is relatively tight but imports from Brazilian suppliers are beginning appear. The current domestic spot price is 47 cents per pound. Industry analysts expect imports to drive the domestic price down to 42 cents per pound by mid to late summer. Meanwhile, domestic styrene production, which had experienced operating problems, seems to be back in gear. Suppliers are beginning to build inventories. The domestic inventory increase should persist, reinforcing a movement toward lower prices.

Purchasing in 1990/1991

Like many of us were saying, first quarter inflation numbers weren't sustainable and as the second quarter begins, the war on prices goes well. Signs clearly signal that inflation is on the run. This fact, however, is now inducing some analysts to begin talking about the next price escalation. Don't panic, commodity prices will be stable through 1991.

The analysts with one of the best track records in forecasting inflation, the WEFA Group, Philadelphia, don't expect another price surge until after the Fed achieves the soft-landing scenario it is currently working on.

For almost all industries, WEFA expects inflation to be light (0-3%) to modest (3-6%) in 1990. Three will actually show a declining rate (see chart). Stabilized or declining prices for the basic materials will quiet inflation at the finished goods level. In particular, industrial inflation will settle down with the fading of energy prices, which WEFA expects to continue downward through year-end.

Modest economic activity over the next 18 months, which is consistent with the Fed's current policy, will result in lackluster demand for many industrial materials. Prices for basic materials such as paper, steel, chemicals and plastic resins are either declining or have plateaued, reflecting their weakened demand.

WEFA noted increasing capacity, buyers keeping a closer eye on inventories, the fact that numerous companies are in the midst of implementing cost reduction strategies and foreign competition as also working to keep a lid on any price pressures which might develop.

The following is a sector by sector forecast, by the WEFA Group, on inflationary pressures for the next 12 months.

Inflation Expectations	12-Month Outlook
Industrial Commodities	0-3%
Energy	Falling
Textiles and Apparel	30-6%
Chemicals and Allied Products	Falling
Rubber and Plastic Products	Falling
Lumber and Wood Products	3-6%
Pulp, Paper and Allied Products	0-3%
Metals and Metal Products	0-3%
Machinery and Equipment	3-6%
Furniture and Household Durables	3-6%
Nonmetallic Mineral Products	0-3%
Transportation Equipment	3-6%

Resin price erosion continues

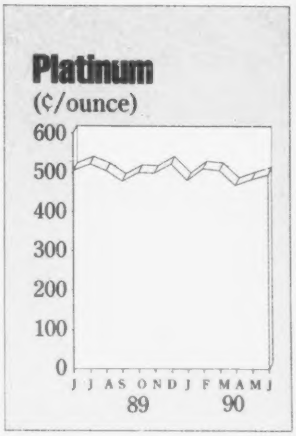
The price for injection-grade high density polyethlene (HDPE) resin has dropped again, with the spot price now around 38 c./lb. This is 4 cents below the late April price. Industry buyers commented, however, that these lower prices were primarily directed at large volume purchasers, of over 5 million pounds per year.

It appears that suppliers are simply trying to solidify relationships before price erosion makes their market highly competitive. By the third quarter, one billion pounds of new HDPE capacity will exist. This, along with traditionally weak demand in the third quarter might even create an inventory glut. By year-end, these factors will push the price for injection-grade HDPE resin into the mid to low 30 cent per pound range.

Platinum price moving higher

In early May, rumors of a large Russian gold sell-off sent platinum prices tumbling, to as low as $470 an ounce. Currently, platinum has stabilized around $500 an ounce. A somewhat strengthening dollar is helping the metal regain lost ground but shouldn't work to push the price much higher.

Industry observers still consider palladium dealer quotes to be weak. Prices, once as low as $115 an ounce, are now near $120. This upward trend is expected to continue, possibly moving to as high as $125 an ounce by summer.



Trouble ahead for connectors

Total shipments of U.S. circular connectors, which grew 1.6% in 1989, are expected to increase only 1% annually for the next five years. While commercial shipments will grow 5.6% annually through 1994, declining military shipments will present a significant drag on the overall industry.

Ethylene softness to continue

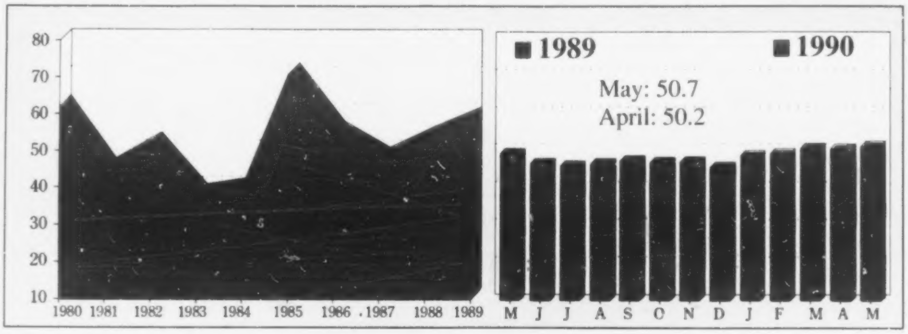
No change is expected in the market's current softness, especially with the traditionally soft third quarter now underway. While the current spot price for ethylene has droped to 14 cents per pound—down 6 cents since April—the contract price remains as it was when the year began, 24 cents per pound.

BUSINESS DATATRAK

by John Sheridan, chief economic editor

N. A. P. M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Follow the consumer

When preliminary gross national product (GNP) for 1990 quarter one was reported in late April, some experts proclaimed that recession was no where in sight. Less than a month later, downward revision of the GNP and concern signaled by other economic beacons have confused data watchers as to which poses the greater threat, recession or inflation. Less emphasis on the most recent data releases and more analysis regarding the data's composition and trend, ease the nerves.

When economic data is scrambled, follow the consumer. Consumers play the leading role in the determination of GNP. In fact, consumer spending accounts for nearly two-thirds of total GNP.

Consumer spending has served as one of the driving forces over the past 7 1/2 years of economic expansion. Much of this increase, however, was financed by higher levels of indebtedness and lower rates of household savings. Though these factors and the slackening economy will temper any acceleration in expenditures from consumers, their spending will remain the foundation of our slow-growth scenario.

Statistically, consumers seem to be displaying caution but are certainly not retrenching. Retail sales have fallen of late but their January jump was so large that retail sales in the first quarter of 1990 were 10% higher than the level displayed in the fourth quarter of 1989. Moreover, people spend if they have money. Personal income rose in January and February, with further gains likely throughout the year. According to economists at the WEFA Group, Philadelphia, three-quarters of real GNP growth in 1990 will be fueled by consumer spending, with the majority of purchases going toward services.

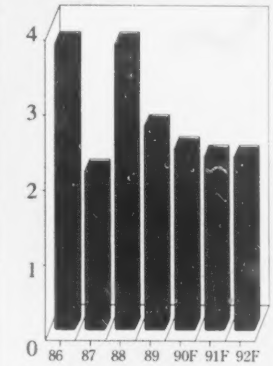
The population's spending pattern is strongly influenced by the level of economic activity. Clearly, consumers aren't buying analysts selling a negative economic picture. Both The Conference Board's survey of consumer confidence and the University of Michigan's survey of consumer expectations remain at historically high levels.

Ample statistical signs of weakness remain for the economy and aren't likely to dissipate before mid-1991. The economy is on a course of slow but sustained growth, with the consumers playing a leading role. The Fed's whole soft-landing concept is predicated on moderate

Leading indicators

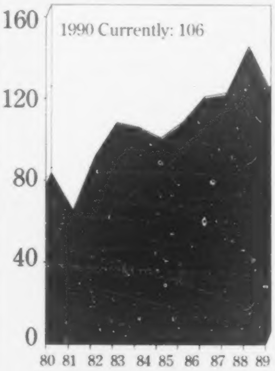
Consumer spending

Percent change, SAAR



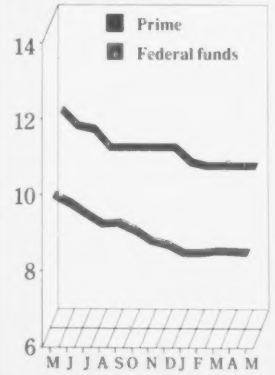
Consumer Confidence

Index 1985 = 100



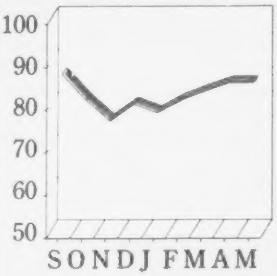
Interest Rates

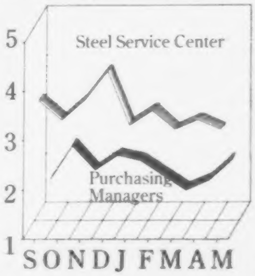
Monthly Average

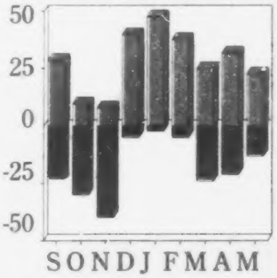


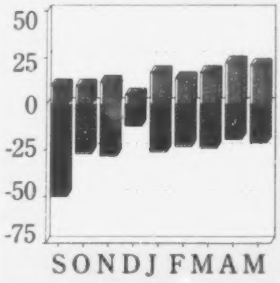
Source: The Conference Board; Dept of Commerce, BEA; Board of Governors of Federal Reserve System.

Steel


Operating rates


Inventories
(months supply on hand)


Demand (Steel Service Centers)
(Percent of respondents)


Demand (NAP M)

Source: Steel Service Center Institute
NAPM Steel Buyers Committee

growth over an extended period of time. If people are waiting to see data suggesting an economy moving into a strong growth position, it just isn't going to happen anytime soon.

When the Federal Open Market Committee meets in Washington this month, monetary policy will probably be left unchanged. Clearly no impetus for tightening exists and the building case for a Fed ease seems premature. Inflation is retreating, according to the signs, but further evidence is needed before a change in policy is warranted.

Through its open market operations, the Fed directly affects the federal funds rate. As the anchor to which other market rates are tied, most notably the prime rate, the federal funds rate exists as a very important market beacon. A change in the federal funds rate is the most common means by which the Fed adjusts its monetary policy posture. Since late December, the federal funds rate has remained stable, with the Fed's perceived target set at 8.25%.

STEEL SCENE

Steel service industry continues transition

Monthly steel production remains high, with April's total set at 8.2 million tons. Reports from steel service centers show that customer activity remains better than it was in the fourth quarter of 1989, with strong optimism surrounding the second half of the year. The latest survey conducted by the Steel Service Center Institute (SSCI), Cleveland, showed 23% of its members polled anticipating an increase in orders over the next quarter. This optimism was also shared by NAPM steel buyers. The latest NAPM Steel Survey reported 21% of the buyers responding expecting an uptick in orders over the next three months.

SSCI President Andrew G. Sharkey commented that "Durable goods orders are steady, order backlogs are healthy and we have seen some declines in inventories in the durable goods sector. These factors should bode well for service centers into the third quarter."

As the steel industry's middlemen, service centers appear to be headed, even if orders remain firm, for a period of transition. Both supply and demand factors are applying some pressure to their profits.

This is especially true with regard to structural sales. Mini-mills over the past 6-9 months have been aggressive in expanding direct sales of structurals to end-users. Historically, structurals haven't required the burning, sawing or polishing—value added services that service centers specialize in—of their other products. Service centers for the most part just cut structurals to length after receiving them from the mill. As a result, mini-mills have been able to make significant inroads with direct sales.

Structural stock levels for service centers have fallen from 238,000 tons in July of 1989 to 184,000 tons in January. Industry observers believe that for service centers to regain their previous role in the structural market, they are going to have to offer something besides cutting structurals to length. Shot blasting and drilling, or even fabrication are mentioned as ways service centers might regain some of their lost market share.

On the supply side, in the face of mild demand, mills have been able to keep prices firm by not allowing the market to become flooded with steel. At the same time, major service center customers continue to try and bypass them by going right to the mills.

Automakers have made the biggest push to date in trying to eliminate them from the purchasing loop. By placing their own mill orders, automakers, most notably General Motors, have sought to gain tighter control on delivery sched-

Import prices

(Compared to domestic)

Steel buyers
ABOVE 58%
SAME 28%
SLIGHTLY BELOW 14%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 4%
SAME 70%
5-10% BELOW 26%
10-20% BELOW 0%
OVER 20% BELOW 0%

ules and quality. The question as to whether mills will provide the same accountability on quality or achieve just-in-time delivery raises some doubt.

In the meantime, steel service centers will find it difficult to sell products at prices much higher than cost. This end-use buyers' market, excluding transitory supply shocks, should move in relation with the economy's slow-growth scenario. Expect steel prices to remain tame as long as slow growth is maintained, which right now looks to be through 1991.

Another factor with the potential to further lower prices is exports. Export possibilities are being looked upon by steel producers with great optimism. Currently, more revenue is generated from an export sale than a domestic sale. Industry exports have risen over the last five years, but they still only account for about 5% of total steel shipments. With a higher volume of exports, capacity utilization goes up and production costs go down. For the fragile steel industry, exports represent not only growth but stability as well.

REGIONAL PERSPECTIVE

Regions offer unique economic view

Drawing a conclusion as to the general economic health of the nation can be difficult. Worse, it can be misleading. Unlike 1982, when all of America was struggling, regional economies during the past seven years have been performing more independently. Edward Yardeni, chief economist at Prudential-Bache Securities, calls the phenomenon "the rolling recession," where downturns move from region to region, while the national economy remains stable.

The current economic condition in each of the 12 Federal Reserve districts is documented by the Board of Governors of the Federal Reserve System in what is known as the "Beigebook." The report, which is produced 10 times a year, each time by a different bank, summarizes comments received from businesses and other contacts outside the Federal Reserve System, regarding certain sectors— including manufacturing, consumer spending, financial, natural resources, real estate and construction, and agriculture—within their respective regions.

Manufacturing: The latest Beigebook shows a majority of the districts including Cleveland, Richmond, Atlanta, Chicago, Dallas, and San Francisco to be experiencing improvement in manufacturing activity. Most important, this increase in new orders and shipments has not been accompanied by any surge in industrial prices. And, any mention of inventories notes that they are in line with expectations.

Increasing auto production leads the rebound in the seventh district, according to the Chicago Federal Reserve Bank. Indications are that all auto facilities were in operation during late April. The worry, however, is that sales remain anemic, which raises the possibility of an inventory glut by late fall. Uncertainty surrounding upcoming labor contracts, however, might have a lot to do with the recent uptick in auto production.

Consumer spending: Slow but sustained growth in consumer spending, fueled by purchases in the service sector, continues. Retail sales performance is strong in Cleveland, Richmond, Minneapolis, and San Francisco, but quite weak in Dallas and St. Louis. In fact, store managers in St. Louis are openly pessimistic. This is contrary to the belief held by most retailers, who feel that, though there will be no broad-based surge in sales this year, modest gains can be expected.

Some districts noted concern that unseasonably warm weather in the first quarter may have led to early sales for some items, and thus the second quarter sales figure may suffer as a result. Supporting this theory is the strong performance of apparel, whose earlier-than-usual introduction, along with the weather, stimulated a strong early-year showing.

Though data implies that retail inventory-to-sales ratios are high, retailers maintain that inventories are in line with projected sales. Durable goods, such as furniture, appliances and other household items, are still creeping along, and will test retailers assessment of inventories.

Natural resources: Though oil and gas prices are lower now than they were one year ago, Dallas and Kansas City report that the drilling and exploration industry remains healthy. Mining, especially for precious metals, also remains strong according to the Minneapolis Fed.

Real estate and construction: The near-term consensus is that housing remains weak. Furthermore, no signs of a sustained turnaround are in sight. Pockets of strength in real estate are reported in Minneapolis-St. Paul, parts of California, and in upstate and western New York. The nonresidential market is not much better. The New York Federal Reserve Bank says that, while leasing is good in its region, significant concessions are the cause.

Financial: Total loan demand is flat. Only Philadelphia and St. Louis cite higher loan volume. Although every district reports some specific cases of credit tightening by banks, there seems little evidence of a system wide credit crunch. Altered lending policies include increasing collateral requirements and shorter loan terms.

CURRENT PRICES

Inflation on the run

The war on prices goes well. If supply shocks, principally in the food and energy sectors, remain mild, continuing moderation will persist.

The alarming first quarter inflation numbers, increasing at an annual rate of over 5%, are beginning to subside. Consumer prices in April rose a mere 0.2% while producers prices dropped 0.3%. Though it is dangerous to place too much emphasis on any single month's numbers, recent figures support the belief that first quarter inflation levels were simply an anomaly.

The April consumer price index (CPI) showed food prices falling for the first time since July of 1987. Energy prices, meanwhile, continued to descend, posting their third consecutive monthly decline. The acceleration of core inflation, which does not include food and energy prices, also appears to be over.

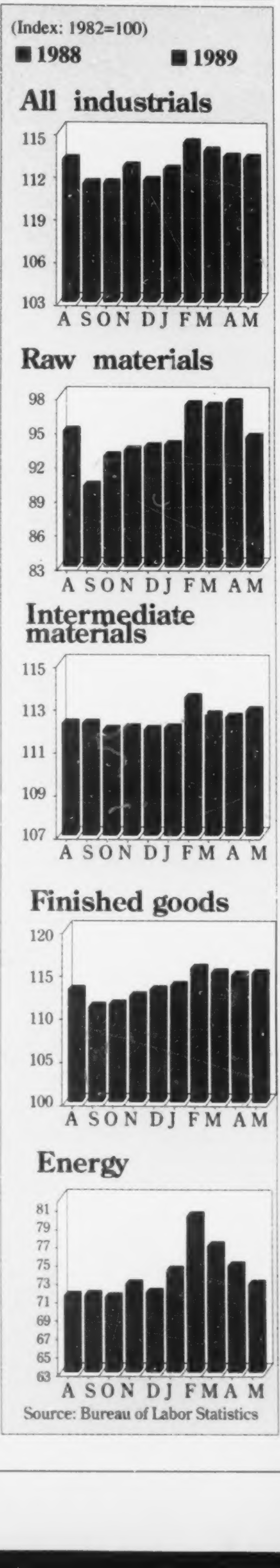
Another inflation barometer supports declining prices through at least mid-1991. The GNP gap is a crude summary measure of the imbalance between supply and demand in all markets within the economy. The GNP gap is the difference between actual and potential gross national product. The relationship between the GNP gap and inflation is unmistakable. A period of excess demand is signaled when real GNP grows faster than 3%, at an annual rate. When such a situation occurs, future prices rise. Conversely, if real GNP grows slower than long-run potential permits, as is currently the case, a period of falling prices can be expected. Prices will remain mild until GNP tops 3%.

This month's breakdown

Index 1982=100

	Latest level	% change from: month ago	year ago
Bearings	130.2	0.1	4.9
Bolts, nuts, etc.	116.1	0.1	4.7
Chemicals, inorganic	111.5	0.5	3.5
Chemicals, organic	109.1	-2.2	-9.4
Concrete products	112.7	0.4	1.8
Corrugated cartoons	110.5	-0.2	-1.7
Cutting tools, small	113.0	0.1	3.1
Electrical lamps (bulbs)	130.5	0.1	5.7
Electronic components	118.5	0.1	-0.6
Fans and blowers	122.8	0.2	4.4
Foundry and forge products	116.9	0.3	2.2
Fuel oil (residual)	51.8	-6.2	9.5
Furniture, commercial	132.7	0.2	3.9
Gasoline	69.6	5.8	-1.4
Glass, flat	107.8	-0.3	-2.0
Glass containers	120.0	0.4	2.7
Gypsum products	107.8	1.3	-2.3
Hand tools	134.2	0.2	5.7
Hand tools, power driven	120.4	0.2	4.1
Industrial furnaces	126.4	-0.3	1.9
Integrating and measuring instruments	126.3	0.4	7.8
Internal combustion engines	117.8	0.2	4.0
Lubricating oil	115.5	-0.5	7.3
Lumber millwork	130.6	0.6	2.5
Material handling equipment	114.4	0.4	3.3
Metal containers	114.9	0.1	4.2
Metal mill shapes (nonferrous)	130.4	0.3	-7.3
Metal tanks	113.9	0.2	2.9
Motors and generators	132.3	-0.4	3.0
Motor trucks	130.6	-0.1	1.4
Office and store equipment	110.0	-0.6	1.1
Paperboard	137.8	-0.5	-3.2
Paper boxes and shipping containers	130.6	-0.1	1.2
Paper office supplies	120.8	-0.1	-1.2
Paint	124.1	0.8	4.5
Plastic resins	123.2	0.6	-12.4
Precision measuring tools	128.9	0.2	2.9
Pumps and compressors	118.1	0.3	3.2
Refactories	122.6	0.4	2.7
Rubber belts and belting	119.0	-0.4	5.0
Scales and balances	109.0	0.3	2.6
Steel products	116.9	0.3	2.2
Switchgear	123.5	0.1	4.1
Textiles, synthetic fibers	106.6	-0.7	2.4
Textiles, gray fabrics	117.3	-0.6	2.9
Tires and tubes	97.3	0.1	0.1
Transformers and power regulations	120.5	-0.1	3.6
Welding equipment	126.7	0.6	3.7
Wire and cable	142.4	1.3	-3.7

Industrial prices



Source: Bureau of Labor Statistics

PROCUREMENT

Purchasers expect continued growth

Purchasers are optimistic that growth, though moderate, will be sustained through the final half of 1990. The NAPM's semiannual economic forecast, by a margin of over 4 to 1, reported purchasers believing strongly that 1990 will be the eighth consecutive year of growth.

During the first half of the year, purchasers said prices rose less than 1% since the end of 1989. Though April's NAPM Report on Business release cited a turn toward higher prices for the first time in almost one year, May's price index was once again below the 50 median (see chart). Buyers expect the average increase for the year to be less than 2%, with inflation in the second part of the year slightly higher than the first.

Moderately rising prices are to be expected, given that April signaled the first advance in 11 months for the manufacturing economy. This does not appear, however, to be a turning point toward a significant acceleration in inflation. Capacity utilization rates are good, inventories, though lean, are in line and both manufacturing and commodity inflation have edged lower during the past year.

Supporting the slow growth scenario over the next 6 months, purchasers pointed to exports and capital expenditures. The 1990 expectation for capital expenditures is growth of 8.1%, with 44% of the purchasers reporting that their companies were going to invest more in 1990 than they did in 1989. NAPM's latest index on new export orders, the other driving force, shows continued expansion anticipated for this sector.

Purchasing managers are now reporting lower prices for 17 commodities, including steel, steel bar, stainless steel plates, ethylene glycol, phenol and natural gas. Higher prices are quoted for zinc, steel scrap, bearings, caustic soda and soda ash. Commodities in short supply are bearings, electric motors, caustic soda, soda ash, hydrogen peroxide, titanium dioxide and timber.

Powder metal healthy, growing

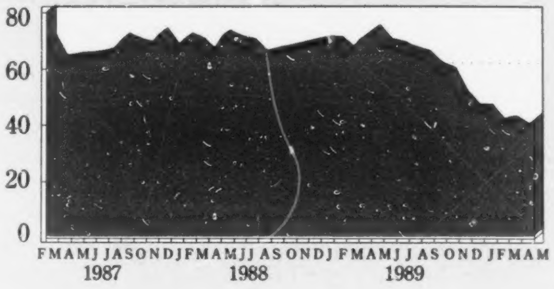
Structural changes in the powder metal (P/M) industry will find end users buying from fewer, larger, and often foreign-owned suppliers in this capital intensive industry. Driving forces include: the automotive industry, which consumes about half of the P/M industry's total output of more than one billion lb.; just-in-time manufacturing and production capability; and demands for the latest in P/M technology. Small operations are

NAPM procurement trends

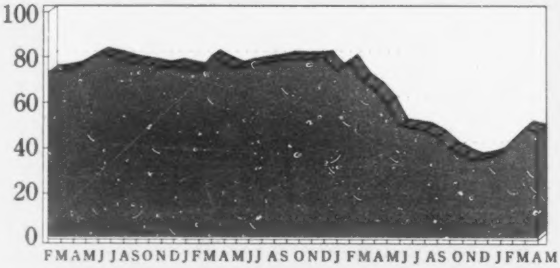
(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend towards lower deliveries is similarly interpreted.

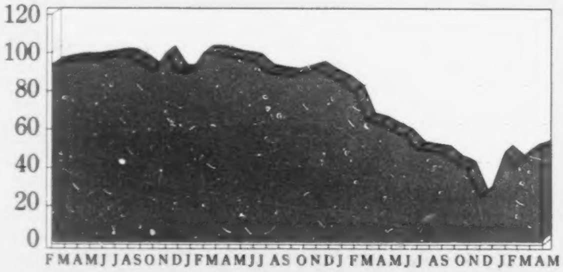
Inventories



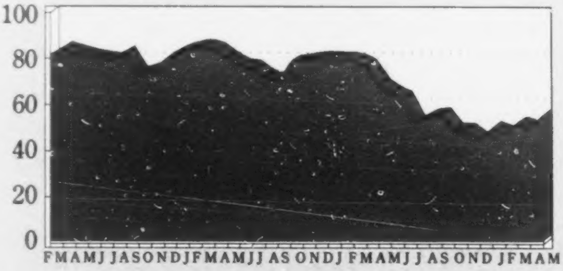
Speed of delivery



Price



New orders



increasingly being acquired by large multipurpose suppliers.

The powder metal market is healthy, according to Leading Edge Reports, Cleveland. Powder metal consumption, in pounds, will increase at an annual rate of 7% over the next 10 years, reaching a volume of 1.4 billion lb. Dollar value will increase even faster, at a 10% per year clip, reaching almost $3.5 billion by the year 2000 compared with slightly more than $1 billion today. International trade will continue to be significant as imports represent nearly 17% of total consumption and exports represent 12% of shipments.

Key factors in P/M market growth continue to be the emergence of new applications, continued technological development, and continued strength in the metalworking and manufacturing industries. Automotive applications include structural parts produced mainly from iron, steel, and stainless steel powders, and bearings from copper and tin powders, along with cutting tools, made from tungsten carbide powders.

Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, dlvd. Phila.,cwt., merchant quality	18.70	18.70	18.70
Steel, bars, Pitts., cwt.	18.70	18.70	18.70
Steel, bars, C.R., Pitts., cwt.	23.95	23.95	25.20
Steel, plates, Pitts., cwt.	23.25	23.25	23.25
Steel, plates, H.R., Pitts.,cwt.	23.25	23.25	23.25
Steel, sheets, C.R., Detroit, cwt.	30.65	30.65	29.65
Steel, strip, C.R., Chi., cwt.	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb.(market place)	0.72	0.75	0.94
Antimony, N.Y., dealer, lb.	0.87	0.85	0.99
Beryllium-copper, cost ingot, lb.	5.90	5.90	5.90
Brass, red, 85%, (sheet), lb.	1.88	1.88	2.13
Brass, yellow, (sheet), lb.	1.84	1.84	2.09
Cadmium, N.Y., dealer, lb.	4.40	4.40	7.10
Copper, electrolytic, wire bars, refd., lb.	1.26	1.31	1.50
Copper sheet, over 24 in., lb.	1.97	1.97	2.22
Lead, common, N.Y., lb.	0.45	0.56	0.35
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 20 fl. lots, N.Y., fl.	280.00	285.00	295.00
Molybdenum, oxide, dealer, lb.	3.35	3.22	3.72
Nickel, cathode, dealer, lb.	4.25	4.25	6.98
Platinum, dealer, oz.	492.00	479.00	523.00
Silver, N.Y., oz.	5.05	5.07	5.80
Tin, N.Y., dealer, lb.	3.03	3.04	4.40
Zinc, prime west, East St. Louis, lb	0.87	0.83	0.90
Zinc, die casting alloy, No. 3, lb.	0.95	0.91	0.98
PAPER (unit=ton)			
Uncoated book #3 offset	940.00	940.00	1020.00
Watermarked bond	1090.00	1090.00	1095.00
Unbleached kraft paper, grocery bag, 30 lb.	660.00	660.00	680.00
Bleached kraft, grocery bag, 30 lb.	800.00	800.00	810.00
Kraft linerboard, 42 lb., domestic, East	370.00	380.00	380.00
Newsprint, 30 lb., East	535.00	535.00	573.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	0.29	0.29	0.28
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.24	1.24	1.22
Cotton middling, 1", N.Y., lb.	0.71	0.71	0.60
Printcloth, 48", 80x80, N.Y., spot yd.	0.50	0.50	0.50
Army duck, 37", 13 oz., yd.	1.49	1.49	1.50
Blended printcloth, 64", 78x54, yd.	0.76	0.76	0.75
20s combed yarns	1.85	1.85	1.80
Wool 64s, staple, lb.	3.00	3.00	3.75
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	81.50	95.00	123.00
Benzene, petroleum, tanks, Houston, gal.	1.28	1.25	1.50
Caustic soda, 76% solid, drums, carlots, cwt.	28.00	28.00	28.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, USP, 37%, (12%-15% meth.),, tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, tanks, lb.	0.80	0.80	0.79
Methanol [illegible]n., tanks, 4000 gals.,, f.o.b. Gul[illegible]oast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, tanks, lb.	0.33	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.38	0.38	0.49
Polypropylene, homopolymer grade (market price), lb.	0.50	0.37	0.46
Polystyrene, general purpose grade (market price), lb.	0.49	0.49	0.59
Polyvinyl cholride, pipe grade,, (market price), lb.	0.37	0.31	0.44
Styrene monomer, 99.6%, tanks, lb.	0.37	0.38	0.49
Sulfur, crude, ex-terminal, Tampa, FL, lt.	123.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.75	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.02	0.95
Xylene, Gulf Coast, spot, barge, gal.	0.90	0.87	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	354.22	350.78	326.95
Lumber 2x2 pine, mbf, cl	333.38	327.20	321.47
Plywood, plyform, 3/4", msf, cl	671.88	658.58	570.00
Plywood, 5/8", msf, cl	392.46	379.25	370.22
Cement, bulk, ton, tl	62.72	62.72	63.88
Sand, ton, cl	6.97	6.97	7.17
Ready-mix concrete, 3000 psi/cu. yd.	47.95	47.95	48.81
Crushed stone, 1.5", ton, cl	6.43	6.40	5.84
Concrete blocks, sand/gravel, 8"x8"x16",, per hundred	91.64	91.64	87.17
Reinforcing bars, whse base; per cwt.	21.88	21.88	21.32
Asphalt paving AC-20	108.01	108.01	108.53
Concrete sewer pipe, 24", prem. joint,, per ft., cl	18.16	17.91	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	17.55	18.60	20.40
Diesel (reseller rack, Chi.), gal.	0.50	0.55	0.51
Feul oil No. 2 (N.Y.), gal.	0.53	0.58	0.56
Fuel oil No. 2 (Gulf spot), gal.	0.47	0.51	0.48
Fuel oil No. 6 (N.Y.) contract cargo, bbl.	18.50	20.50	18.75
Gasoline (prem unlded N.Y.), gal.	0.73	0.71	0.70
Gasoline (reg unlded N.Y.), gal.	0.64	0.64	0.59
Kerosine (reseller rack, Chi.), gal.	0.59	0.64	0.60
Propane (Mt. Belvieu, TX), gal.	0.22	0.24	0.22
SCRAP MATERIALS			
Steel, No. 1, hvy., dlvd., Pitts., ton	104.00	103.00	114.00
Steel, No. 1 hvy., dlvd., Chi., ton	113.00	110.00	113.00
Copper, No. 1, East, wholesale buy, dlvd., lb.	1.06	1.07	1.19
Copper, No. 2, East, wholesale buy, dlvd., lb.	0.98	0.97	1.12
Brass, red, East, wholeale buy, dlvd., lb.	1.10	1.10	1.16
Brass, yellow, East, wholesale buy, dlvd., lb.	0.63	0.57	0.61
Alum., old sheet/cast, E., wholesale buy, dlvd., lb.	0.47	0.51	0.65
Alum., mixed clip., E., wholesale buy,, dlvd., lb.	0.54	0.56	0.72
Zinc, old East, wholesale buy, dlvd., lb.	0.30	0.30	0.38
Lead, clean solids, East, wholesale buy, dlvd., lb.	0.24	0.24	0.23
Paper, No. 1 mixed, dlr., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., Chi., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dlr., N.Y., ton	Nom.	Nom.	Nom.
Old newspapers, Chi., ton	-20.00	-20.00	Nom.
Old white ledger, Chi., ton	75.00	75.00	75.00

Sources: Metals Week, American Metal Market, Engineering News-Record(20-city averages). The Wall Street Journal, Journal of Commerce, Chemical Marketing Reporter.

Econometric models ARE REASSURING

By John W. Sheridan
Chief economic editor

Over the seven-plus years of current economic expansion the three leading econometric models have performed remarkably well, with very little variance among their relative projections. Their latest forecasts report a consensus on continued slow growth, yet diverge with respect to inflation. This conflicting view on inflation clearly signals a period of increased economic uncertainty. This uncertainty, given the slow growth of the economy, certainly increases the risk of recession, but the models foresee little chance of recession over the next 18 months.

Expect the good track record for the three models in predicting GNP to hold up. The models are optimistic that growth will continue, though at a less-than-trend pace, for the next 18 months. The average model forecast, as measured by real GNP, is for 2.2% growth in 1990 and 2.1% in 1991.

Though the models don't predict much improvement in price levels this year, the second half of 1990 will witness the beginning of a gradual descent in inflationary pressures. Moreover, this descent should continue through 1991. Price pressures, as measured by the three widely monitored indexes, would have retreated this year were it not for unforeseeable early-year shocks.

An acceleration in GNP, to above 3% annually, would change the inflation forecast. This would cause inflation to quickly heat up, since most analysts believe the current level of unemployment to be below the natural rate. Below natural-rate unemployment and above-trend GNP quickly produce both cost-push and demand-pull inflationary pressures. Such a situation would quickly force the Fed to tighten, lest they risk a period of stagflation later on.

It is unlikely, however, given a leveling off of consumer spending and consumer confidence, that GNP will exceed inflation stimulating levels. In fact, Merrill Lynch points out two factors which should work to dampen consumer spending through 1991—high debt burdens taken on in the 1980s and slower job growth. The econometric modelers believe that, though consumer spending won't propel GNP, it remains strong enough to prevent any economic downturn.

Industrial purchasing agents will be excited to learn that the models anticipate finished producer goods prices to ease significantly through 1991. Stable raw material prices along with marginal unit labor cost advances are seen as major restraining forces.

The three models expect employment levels to remain stable during the next two years. The reason: manufacturing has kept a tight control on inventories, so that any correction won't require large employment displacements. Steady employment will solidify the slow-growth, soft-landing scenario.

The major difference between the models is their respective interest rate forecast. Variance in expectations here signals uncertainty about the future course of monetary policy. While DRI and WEFA lean toward a possible Fed tightening in either the fourth quarter of 1990 or the first quarter of 1991, Merrill Lynch expects a Fed easing. Which model is correct depends on the accuracy of what's implied by current GNP data and the assumptions inherent to each model. The reassuring point is that all models expect the Fed to employ the appropriate policy for continuation of the soft-landing scenario.

Buyers can expect the current slow-growth expansion to continue into 1991.

PW

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The econometric models

	1990	1991
Real GNP (% change)		
DRI	2.2	2.1
WEFA	2.1	2.2
Merrill Lynch	2.2	2.1
AVERAGE	2.2	2.1
Industrial production (% change)		
DRI	1.6	2.2
WEFA	1.1	2.6
Merrill Lynch	1.2	2.4
AVERAGE	1.3	2.4
GNP price deflator (% change)		
DRI	3.9	3.8
WEFA	4.2	4.0
Merrill Lynch	4.1	4.2
AVERAGE	4.1	4.0
Finished producer prices (% change)		
DRI	3.8	3.4
WEFA	4.4	3.4
Merrill Lynch	4.3	3.2
AVERAGE	4.2	3.3
Consumer prices (% change)		
DRI	4.7	4.2
WEFA	4.9	4.3
Merrill Lynch	5.1	4.3
AVERAGE	4.9	4.3
Prime interest rate (%)		
DRI	10.1	10.8
WEFA	10.3	10.5
Merrill Lynch	10.0	9.9
AVERAGE	10.1	10.4
Unemployment rate (%)		
DRI	5.3	5.4
WEFA	5.4	5.6
Merrill Lynch	5.4	5.4
AVERAGE	5.4	5.5

PurchasingWorld®

THE BUYER'S MAGAZINE

AUGUST 1990

INVENTORY

Converging I/S ratios signal warning

CONTENTS

August 1990, Vol. 34, No. 8

COVER STORY

21 Are inventories as good as they say?

While manufacturing's inventories are excellent, converging inventory-to-sales ratios between manufacturing and retail are sending warning signals to buyers and the system overall.

FEATURES

34 Specialty steels compete on performance, price

Stainless steel and specialty alloys continue to meet more demanding requirements of metals buyers.

38 IP offers creative partnership

Innovation is the key to new package designs at International Paper's recently expanded research center.

RNATIONAL PAPER

IP offers creative solutions to packaging dilemmas. Page 38

Software programs make buyers' jobs easier. Page 25

FEATURES

25 Software pleases purchasing pros

Buyers say the latest software packages are making their jobs easier and can be implemented with relative ease. Also in this report is a listing of available purchasing software packages.

42 Ideal system saves space, time

Proper storage of small parts and tools can add up to big savings in productivity and space. Learn ten steps to a better storage system buy.

49 Pumps get "new and improved"

Competition is forcing pump manufacturers to make products that are quieter and more efficient.

DEPARTMENTS

3 PW Pointers

4 Editorial

6 Inside purchasing

Company blames supplier.

7 PW Predicts

A look at chemicals, special alloys and the apparel industry.

12 Business datatrak

PW's economist tracks metals, prices and regional trends.

56 Negotiations

DeRose claims there's nothing new under the sun.

57 Transportation

New policy needs a road map.

59 Buying for the office

Suggestions for better office furniture selection.

60 New products

64 New literature

65 Advertisers' index

66 Classified

68 Purchasing and the law

Did I make a contract?

PurchasingWorld

PW POINTERS

Toward improving minority purchasing

A purchasing video titled "Doors to Opportunity" has been released by the National Minority Business Directories (NMBD). The 20-minute video outlines the benefits of a strong minority purchasing program and offers practical tips on how to make it successful. The video complements the TRY US directory, linking purchasing people with minority-owned firms. *NMBD, 2105 Central Ave., NE, Minneapolis, MN 55418 FAX 612/781-0109* **Circle 93**

"You know what I mean?"

Wasted effort, poor morale and lost business can be the result of poor communication. A video by Rank Roundtable Training, Beverly Hills, CA, titled "You Know What I Mean?" helps eliminate these problems by identifying key skills for successful communication. The video highlights the need to pay attention to both non-verbal and verbal signals and emphasizes that everybody is responsible for sending and receiving clear messages. Package includes video, discussion leader's guide and discussion tape and costs $35 for preview; $155 for three-day rental, or $675 for purchase. *Rank Roundtable Training, 113 N. San Vicente Blvd., Beverly Hills, CA 90211* **Circle 94**

Solid waste issues and answers

A 14-page booklet addresses some commonly asked questions about the solid waste issue regarding plastic packaging, the solid waste stream and the environment. "Solid Waste Issues and Answers" also discusses source reduction, recycling, composting, incineration and landfills. *Sonoco Products Co., North Second St., Hartsville, SC 29550* **Circle 96**

Survey says...

A just-completed nationwide survey shows that executives consider engineers and accountants the most ethical professionals—garnering 58% of the replies. Investment bankers finished last with 1%.

Lift truck training increases productivity

As productivity is dependent on the efficient movement of materials, the lift truck has become a key component in a company's overall success. Research by the National Institute of Occupational Safety and Health (NIOSH) showed training can improve lift truck operator performance by about 70%. The Hyster Company offers training which includes basic truck operation, precautionary measures traveling, proper load handling and stacking procedures and basic maintenance. *Hyster Company, P.O. Box 847, Danville, IL 61834, Phone 800/221-1191*
Circle 95

Recycled office paper saves energy, trees

Conservatree Paper Company says that every ton of recycled paper saves 17 trees, enough energy to power the average home for six months, and 7,000 gallons of water. It also keeps about 60 pounds of pollution effluents out of the air. "Your Practical Guide to the Environmentally Responsible Office" offers a convenient way for you to save thousands of trees, energy and water by buying recycled goods. The guide gives business owners and purchasing managers practical tips on how to buy products made from recycled paper, including a buyer's directory of recycled paper suppliers. *Services Marketing Group, 8 South Michigan Ave., #2500, Chicago, IL 60603*
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PW PREDICTS

Subduing inflation—gradually

Overall, data suggests that though the economy continues along in its slow-growth environment, no dramatic improvement has occurred, or is even expected, in inflation this year. To many, the most puzzling of economic phenomena is the persistence of inflation. Rest assured, the inflation war is going well, it just isn't going quickly.

Accounting for the stickiness of inflation is the fact that a single round of inflation assaults prices more than once. Inflation initially occurs because of an upward pressure on prices, or what economists term the demand-pull transmission process. Most often, this situation is the result of too much money chasing too few goods.

As this phase of inflation's attack retreats, a delayed price response mechanism, referred to as cost-push, begins. The cost-push scenario, in turn, goes through two cycles: the initial response to production increases and the formation of inflationary expectations.

The persistence of inflation at this point in time is due to the second phase of the cost-push cycle, which consists of the establishment of inflation expectations. These expectations impact many areas of the economic system, but their effect on wage rates is of greatest concern.

The inflation spiral began with excess demand creating a shortage in the market, forcing businesses to step up production, leading to rising input costs. But the costs of production do not respond collectively. Labor adjusts with a lag, which persists, because of changes in inflation expectations. Wage adjustment not only includes accounting for higher prices now, but for higher prices in the future as well.

Producers have little choice but to pass wage costs through into still higher prices. The stabilization of wage costs, however, brings the inflation cycle to an end, unless the Federal Reserve has provided the catalyst for another burst of excessive demand.

Thus, the pattern of adjustment runs from spending, to output, to costs, to prices, to expectations, to labor costs, and finally back to prices. The good news is that this process cannot continue unless supported by continuing increases in the money supply. Fortunately, the Fed has kept a tight grip on money since mid-1987. The brief burst in the supply of money since last summer has allowed the economy to continue its soft landing, without creating any excessive demand pressures (see DataTrak).

The Fed's monetary posture during the past three years has constrained any potentially significant advances in demand. Industrial production has plateaued and the cost of raw materials and commodities has stabilized. Data clearly shows that these factors have put a halt to accelerating inflation. Nevertheless, price pressures continue.

Inflation will continue to gradually subside, but how far is primarily up to wage costs. It appears that wage increases have yet to peak. Unemployment increases are on the horizon, however, if wages, which include both compensation and benefits, continue their relentless ascent. The burden applied by benefits will certainly impede any significant reduction in inflation, at least in the foreseeable future.

One reason why wage costs continue to provide impetus for a persistence of inflation is because recent productivity gains have been so feeble. In the past year, productivity, measured as output per hour worked, has grown less than 1%, down from the previously less than impressive levels of 1988 and 1987, which were 1.6% and 2.4%.

Higher wages must be offset either by increases in productivity or rising prices. Workers' hourly compensation and benefits have risen over 5% in the past year. During this same time, productivity has grown less than 1%. The result is that the cost of producing one unit of output has advanced nearly 4.5%, which must then be accounted for in the form of higher prices.

While overall productivity has been feeble, productivity increases in the service sector have been even worse. Nonmanufacturing productivity has risen only 0.5% over the past 12 months. With unit labor costs up over 5% during this same time, it is clear why consumer prices have come in between 4.5-5% over the past year.

What this 4.5-5% range suggests is that though inflation has been contained, an outright reduction is not yet being seen. Assuming the Federal Reserve will not aggressively increase domestic liquidity, and given there are no price shocks forthcoming which will ignite the construction biases in the price indexes, the outright reduction in inflation that everyone is looking for should begin this quarter, and continue into 1991.

By John Sheridan

Mixed trends in chemicals

Overview: First-quarter earnings in the chemical industry were below those of a year earlier, continuing the trend begun in the third quarter of 1989. Two things, however, should not be overlooked when comparing earnings between these two periods: 1) The first quarter of 1989 represented an earnings peak for the chemical industry as a whole, and, 2) considering that the sectors of the economy keeping the soft-landing soft are the key end markets for chemicals, the data could have been worse.

End markets: Automobiles and manufacturing are experiencing some rejuvenation, but housing continues to struggle. Automobile production has been stepped up, with third quarter production levels expected to be 9% above those observed in the comparable 1989 period. While the auto industry isn't as soft as it was at the conclusion of 1989 and in early 1990, sales for the year will—in the absence of unusually aggressive incentives—come in below 1989's level.

No pick-up is expected in housing starts this year, while construction overall remains sluggish. Housing starts are anticipated to be down roughly 5% from year-ago figures.

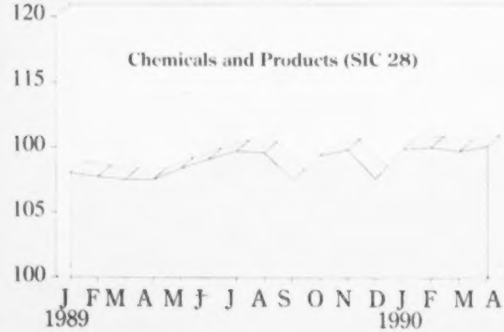
Indications are that manufacturing in general is beginning to escape stagnation. An expanding export market, along with lower energy and raw material costs, should allow this improvement in manufacturing to continue.

Prices: In general, chemical prices have stabilized, after declining for most of 1989. The producer price index for chemicals reported May prices to be 1.7% below those of a year earlier.

Outlook: Standard & Poor's economics department notes that it is likely, given lower prices and margins for ethylene and plastics, that full-year earnings will decline in 1990 for the chemical industry.

Chemical industry production

Index 1987=100



Source: Federal Reserve Board

Pesticides enjoying solid 1990

Despite an unusually wet spring in some regions, the prospects for agriculture chemical sales in 1990 appear good. As the spring planting season comes to an end, it is estimated that corn will fall slightly below its projected 74.8 million acres, while soybeans and cotton should hit their marks of 59.4 and 12.4 million acres.

The strong growth in agricultural chemicals witnessed over the past two decades has stabilized, but industry experts are looking for pesticides sales growth of 2-3% for the year overall.

Stainless scrap tags retreating

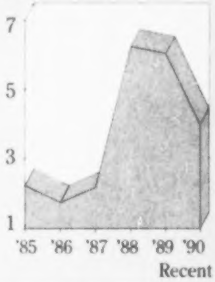
May was the second straight month of falling stainless steel scrap prices, with the bundles price ranging from $900-$930/ton. This is a 12% drop from April's number. Easing prices are expected to continue through summer, with exports down and supplies loosening.

Nickel prices remain firm

In early June, the price of nickel fell to $3.58 per pound on the London Metal Exchange (LME). Since then, prices have moved higher, not lower, as many analysts speculated. The domestic merchant price ranges from $4.00-$4.25 per pound. Reported double-ordering from stainless steel producers and the wildcat strike at the French-based New Caledonia facility suggest that near-term prices could go higher. However, one industry observer noted that the Soviets may begin to increase their market shipments, which could potentially begin a downward move in price. Look for the producer realized price in 1990 to gravitate toward the $3.75-$4.00 per pound range.

Nickel

($/pound)year-average



HR sheet leadtimes out

Market forces are being cited as the reason mills are pushing leadtimes for hot-rolled sheet to between 8 and 16 weeks. Some leadtimes appear justifiable because of maintenance shutdowns. A number of distributors, however, said that some mills are keeping production schedules fixed, to keep delivery times extended and prices up.

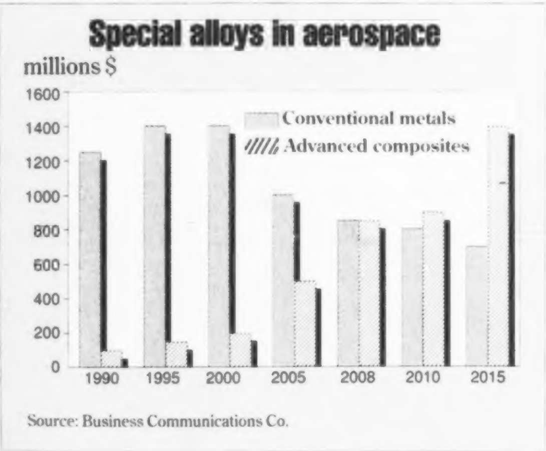
Special alloys changing

Overview: The conventional high-performance metal alloy market is quite mature, and many industry experts argue, probably correctly, that these metals have reached the upper limits of their operating envelopes. Despite the extensive effort to make them obsolete with new advanced composite materials, conventional high-performance metal alloys continue to dominate the market.

Demand: In a study recently released by Business Communications Co., Inc., (BCC) Norwalk, Connecticut, special alloys are primarily employed in five areas. Aerospace applications include airframes, engines, rockets, and spacecraft. In the petrochemical and oil patch industries, pipes, valves, joints and pumps all utilize high-performance metal alloys. Areas of industrial use include retorts and tubing, while marine applications center around impellers and shafts. Although advanced materials are exhibiting the greatest growth, the market for conventional special metals will exceed $1 billion through the turn of the century.

Supply: One factor determining the rate at which advanced materials become employed is the ability of these composites to surpass the performance of conventional special alloys in the areas of strength or stiffness, high temperature operation and corrosion resistance, at a lighter weight. The most significant factor, however, might be the fact that conventional materials will remain less costly for some time to come.

Outlook: The BCC states that though the future holds much promise for new advanced composites, they aren't likely to be the leading player in the aerospace market until well into the next century. Within the aerospace propulsion market, the cross-over in use between conventional alloys and new composite materials is forecast by the BCC to occur around 2008.



Source: Business Communications Co.

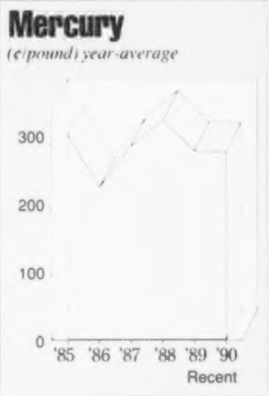
Rains impact DAP prices

Spot prices for diammonium phosphate (DAP) are moving up, with domestic spots near $145/ton in tanks f.o.b. central Florida. Lean corn stocks and the wet weather which hampered planting last spring have DAP producers optimistic that next year, both fertilizer consumption and DAP prices will be up.

This year there may be 600-700 million fewer bushels of corn available. As a result, DAP producers feel the government won't stop farmers from planting as much as they want in 1991. It should be noted, however, that there isn't a direct correlation between an increase in planting and an increase in fertilizer demanded. Many farmers have cut back on their fertilizer rates.

Lead producers must invest

To survive the 1990s, lead producers will have to make substantial investments in smelter technology due to increasingly stringent environmental regulations, according to industry experts attending the Tenth International Lead Conference in Nice, France. Primary and secondary lead production capacity is expected to meet consumption requirements through the year 2000. While the U.S. is nearing its saturation point, Eastern Europe, South America and Asia are seen as high growth markets.



Aluminum scrap exports down

After four months, aluminum scrap exports are off 14.5% from their year-ago level. Surprisingly, exports to Canada have rocketed upward, presently showing a 94.3% increase. The dominant buyer in the export arena continues to be Japan, but their purchases are down 23% through April. The total value of aluminum scrap exported through the first four months stands at $174,890,046.

Mercury market stays calm

Traders report a quiet market, with the merchant range remaining at $280 to $290 per 76-lb. flask sold in lots of 50 or more. Demand has been calm for three months now, with the price range unchanged since mid-March. The European mercury price range has fallen slightly and is now at $200 to $210 per flask.

Apparel industry is ailing

Overview: Modest growth in the domestic market, industry maturity and increased competition from imports forced domestic manufacturers to close more than 200 older, inefficient plants in the 1980s. Moreover, the past few years have witnessed substantial consolidation, in an attempt by some firms to gain market leadership. The recent merger and acquisition activity, however, has probably come to an end, given the demise of Drexel Burnham Lambert, Inc. and the fall of junk bonds.

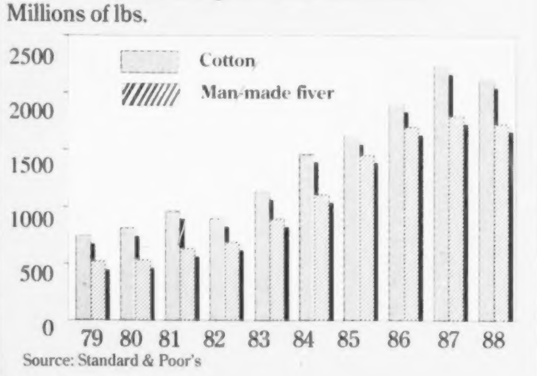
Demand: Industry sales rose 5.4% in 1989, but profits actually fell. Rising raw materials costs and interest charges resulting from consolidation and leveraged buyout activity were the primary factors behind the poor profit showing. Consumer spending, which fueled the sales spurt, centered on apparel and semidurable household furnishings. The two major textile end-markets displayed spending growth in excess of 7% last year.

Supply: Productivity has increased somewhat following extensive restructuring, including plant closings mentioned above, with the resulting lay-offs, and capital expenditure. Investment has centered on less labor-intensive machinery, allowing the industry to decrease employment 15% in the 1980s, while advancing production 24%.

The slow economy and ability of domestic manufacturers to provide shorter leadtimes for reorders should deter any acceleration in imports. As a result, growth in imports should remain flat during the remainder of 1990.

Outlook: Of all fibers used, man-made fibers account for 68%, cotton for 31% and wool for less than 1%. In 1989, cotton prices moved up over 14%, while man-made fibers advanced 6.3%. Wool prices actually fell. Researchers at Standard & Poor's anticipate mixed price movements during the remainder of 1990, with cotton prices trending higher and wool prices continuing to slide.

U.S. imports of textiles



Source: Standard & Poor's

Soda ash tags still advancing

Producers are initiating both list and off-list price hikes. Industry sources report a $5/ton increase in the list price, bringing it to $98/ton.

Analysts expect the market to absorb the price advance. Demand is strong, but even more important is the new demand coming from the pulp and paper industry, where environmental problems accompanying chlorine use are stimulating producers to increase their consumption of soda ash.

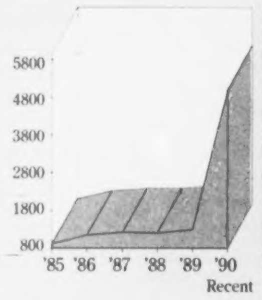
One industry source doubts if demand is the only factor behind the price rise. It is believed that the European Community will lift the import duties which U.S. exporters now face. To protect themselves against possible dumping propaganda or litigation, U.S. producers have now set a price that is comparable to the Europeans, once delivery charges have been figured in.

Rhodium soars to $6000

The extremely tight market and a frenzy of Japanese buying has provided the impetus behind rhodium topping the $6000/troy oz. barrier. Both dealer and producer inventories have run dry or are very close to it. Since rhodium is not the investment most other precious metals are, investor divesting is unlikely.

Where the market goes now is anybody's guess.

Rhodium
(cents)



Despite the fact that some of the current demand is speculative, prices should remain firm. Diverse demand from Japanese automakers and Europeans for auto catalysts remains strong, inhibiting any reduction in rhodium tags.

It appears that supply problems will persist through year end, since the Russians are the only major seller capable of impacting the market at this time. It is doubtful that the Soviets will end the market's tightness, since they have divided their annual allotment by the number of trading days in the year, offering a prespecified amount on each trading day.

Styrene prices unlikely to ease

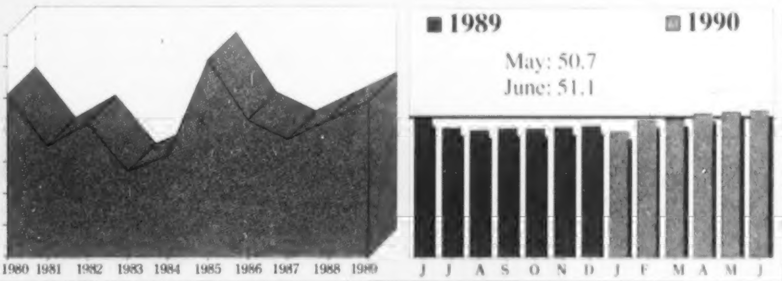
The expected price slide for styrene monomer, which had been predicted for the second quarter, has failed to materialize. It isn't likely to occur in the third quarter, either. Low inventories and plant shutdowns are keeping supplies tight. Spot prices remain firm, at 43-44 cts/lb f.o.b. U.S. Gulf.

BUSINESS DATATRAK

by John Sheridan, chief economic editor

N. A. P. M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Soft landing in stagflation

There is a short-run tradeoff between inflation and unemployment. Rising inflation can fuel a decline in the unemployment rate, but unemployment can remain below its long-run natural rate only as long as inflation is accelerating. Eventually, inflation must be brought under control, and this transitional period has traditionally been associated with slow output growth and rising unemployment.

In 1980, inflation persisted long after output dropped. This period of high and rising unemployment, accelerating inflation and no growth became known as stagflation.

While the economy is certainly more healthy than it was 10 years ago, another version of stagflation appears to be upon us. In the Federal Reserve's current soft-landing strategy, the "stag" has been centered in manufacturing, while the "flation" has been primarily in the services-producing sector.

Reducing the inflation rate has different effects on the various sectors of the economy. To date, manufacturers have had to bear the brunt of the slow-growth environment. As one manufacturing economist puts it, "Autos and appliances are the whipping boys in controlling inflation."

One factor generating optimism with regard to the auto industry's long-run outlook is the relatively high age of cars currently on the road. Moreover, demand is expected to pick up when those who finally achieve some equity after paying off most of the now standard five-year loans begin to trade in for new cars.

The pace of economic activity remains below potential, but the deterioration has stopped and the chances of a near-term recession seem slim.

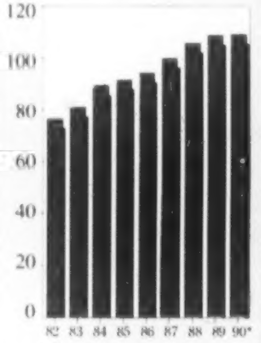
Indicators are consistent with continued moderate growth. In May, operating rates for the nation's factories, mines and utilities rose slightly to 83.6%. May data also showed slight increases in industrial production (see chart) and capacity utilization.

The Federal Reserve reported that a rebound in auto production was the primary impetus behind an increase in factory output, up 0.6% in May. Manufacturing's unfilled orders, as reported by the Commerce Department, are also continuing to rise (see chart).

The best news, however, is that prospects for a reduction in inflation appear inevitable. Domestic liquidity, as calculated by

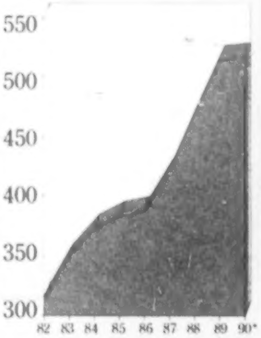
Leading indicators

Manufacturing Production
Index 1987=100



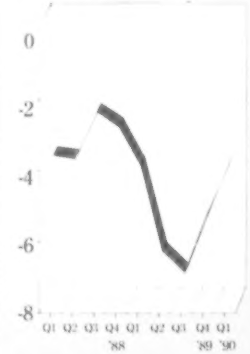
*Current

Manufacturer's unfilled orders
(Millions)



*Current

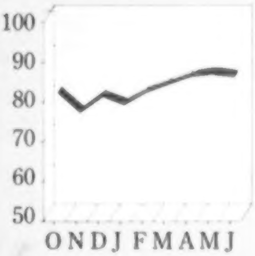
Domestic liquidity
Percent change, annual rate



Source: Department of Commerce, BEA; Federal Reserve Board.

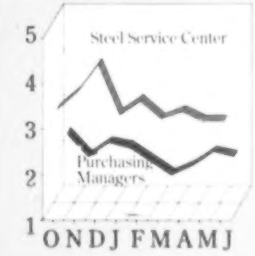
Steel

Operating rates



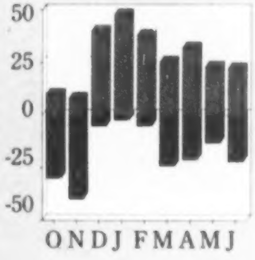
Inventories

(months supply on hand)

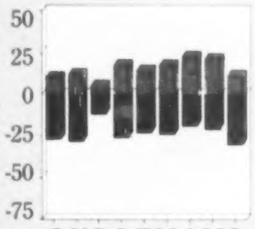


Demand (Steel Service Centers)

(Percent of respondents)



Demand (NAPM)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

dividing the M2 money supply by the U.S. gross national product, has been falling since mid-1987. Federal Reserve monetary policy eased somewhat in mid-1989, stimulating a continuation of economic growth. This monetary change, however, is not expected to ignite any overabundance of demand, since the level of money in the economy continues to shrink (see chart). Therefore, prices should continue to moderate.

Inflation hawks are eagerly citing the price rise reported by purchasing managers as a sign of an inflation turning point. Lean inventories and lengthening leadtimes are stimulating some price hikes. Unless soft landing turns to boom, the current disequilibrium is only temporary.

METALS SCENE

Steel still creeping along

Steel exports in the first quarter are off 4.6% from the year-ago period. Imports performed even worse, down over 15% after the first 3 months. Utilization rates have remained above the 85% level since late January, with production of raw steel, as reported by the American Iron and Steel Institute, rising to 8.5 million tons in May.

The WEFA Group anticipates steel production to gravitate toward 94 million tons in 1990, assuming utilization rates stay above 85% and the crude-to- finished steel yield factor remains near 84%. Steel shipments, in turn, should near 82 million tons for the year. If WEFA's forecast holds true, shipments would be down a little over 2% for the year overall, with production declining 3%.

Data through June supports the belief that the steel industry is simply creeping along. While receipts of steel from domestic producers to the construction sector are up significantly versus last year, shipments to the other three major steel consuming markets is down. Though no major improvement is seen in the machinery sector, industry analysts expect auto builds and service center activity to be better in the second and third quarters than it was in the first, stimulating a pickup in new steel orders from these sectors.

The Steel Service Center Institute (SSCI), Cleveland, reported that May shipping rates rose slightly for the $24 billion dollar service center industry. Inventories also edged down, and given optimism that volume will remain strong through the summer and fall, some inventory build seems necessary.

A broad base of products is currently fueling the service center's shipping rate advance, including carbon plate, carbon bars, carbon tubing, stainless and structurals. Alloy shipments remain flat, but carbon flat rolled has declined some from its year-ago level.

Import prices

(Compared to domestic)

Steel buyers
ABOVE 54%
SAME 27%
SLIGHTLY BELOW 19%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 79%
5-10% BELOW 17%
11-20% BELOW 2%
OVER 20% BELOW 0%

Platinum demand steadily rising

Demand in the United States for platinum group metals (PGM) is forecast by the Freedonia Group, Cleveland, to increase 3.7% a year over the next 5 years. Palladium and platinum are expected to experience growth of 3.6% annually through 1994. Their abundance, as well as desirable characteristics in terms of industrial applications, will allow them to account for over 92% of total PGM demand.

While other PGM's constitute a small percentage of total demand, they will easily represent the areas of greatest growth. Applications in investment metals and pollution control catalysts appear to possess the greatest possibilities.

The market increasing PGM consumption fastest could be petroleum, due to the perpetual desire to use cleaner unleaded gasoline.

REGIONAL PERSPECTIVE

Consumer prices

At the national level, the consumer price index (CPI) reported May prices to be 4.4% above those of a year earlier. How accurate a measure of inflation is this? Designers of the CPI created a less than perfect measurement of inflation for two reasons. First, the consumer price index represents a fixed basket of goods. If a person can substitute a less costly item that is not accounted for in the index, the cost of living has not deteriorated. Second, quality improvements are usually accompanied by a price increase, but is this inflation? The consumer price index thinks so.

Another problem with reviewing the national number, however, is that price movements in the region where you work and live could vary greatly from those representing the nation overall. For instance, May consumer prices in Chicago, New York, Washington D.C., Philadelphia and Boston were at least 5% higher than they were just one year ago.

Employment growth

During the current expansion, four regions have spearheaded the attack. Businesses in the New England, far west, southeast and southwest regions prospered during much of the 1980s. However, by 1988, the data was beginning to report a shift in performance.

The U.S. Department of Commerce estimates that job growth will continue strong in the sunbelt. This region, stretching from the southeast to the southwest, could experience employment gains of 15% by the turn of the century.

The region where business activity is anticipated to be most robust— California. One of every six new jobs, between now and the turn of the century, will be located in California. The Rocky Mountain region is also expected to present solid employment opportunities through the year 2000.

Interestingly, the Commerce Department study reports job growth advancing over 10% in each region over the next decade. This, despite the fact that the national rate of growth in employment will be slower in the coming decade than it was over the previous 10 years. Surprisingly, the performance between each region is also supposed to be less varied.

Industry hiring plans

Continued caution is being signaled by U.S. businesses with regard to hiring plans for the third quarter. Manpower Inc., Milwaukee, polled over 15,000 companies across the nation and found that 27% intend to increase their workforce, while 8% are planning staff reductions.

The survey suggests that job market conditions depend drastically on what part of the country you reside in. Manpower President Mitchell S. Fromstein stated, "While the U.S. trends as a whole show continuing softness in hiring plans, the indications are highly disparate on a regional basis with surprising strength in the midwest and southwest and very visible weakness in the northeast."

Consumer Prices

Percent change from May

Chicago	5.2
Los Angeles	4.9
New York	5.4
Philadelphia	5.2
San Francisco	3.6
Baltimore	3.9
Boston	5.0
Cleveland	4.3
Miami	4.5
St. Louis	4.3
Washington D.C.	5.4

Source: U.S. Dept. of Labor

Industry hiring plans

Percent Increasing employment

	National average	Midwest	West	South	Northeast
Mining	19	8	16	24	0
Construction	37	51	31	31	32
Manufacturing					
Duralbe goods	26	29	25	27	20
Nondurable goods	26	29	30	26	22
Transportation & Public Utilites	23	23	24	26	17
Wholesase & Retail Trade	29	34	33	28	23
Finance, Insurance & Real estate	19	25	23	18	10
Education	25	27	30	27	15
Services	28	32	28	26	24
Public Administration	28	30	30	29	20

Source: Manpower Inc.

Employment growth

Percent change

	1979 -1988	1988 -2000
U.S.	18.7%	14.3%
New England	24.9	12.3
Mideast	16.0	11.0
Great Lakes	8.0	11.8
Plains	11.2	11.8
Southeast	24.2	14.9
Southwest	21.9	15.2
Rocky Mountain	16.9	17.0
Far West	27.1	20.8

Source: U.S. Dept. of Commerce

CURRENT PRICES

Inflation lingering

The rate of inflation for finished goods has been tamed, reflecting lower material input costs. Labor cost pressures and a moderate rebound in demand, however, are working to inhibit further reductions.

The latest Producer Price Index release shows finished goods moving up 0.3% from April to May, with the year-to-year change coming in at 3.1%. The continued retreat in the cost of energy goods, which has fallen for four consecutive months, remains the major force tempering price pressures at this level.

The recent pickup in industrial activity might send intermediate and crude material prices slightly higher, but only for a short time. There are still ample sectors of weakness in the economy, which will stall any enduring price rise this year.

While data suggesting a Fed ease is increasing, any such ease will be slight. Warning: if the economy's current soft landing turns into a touch-and-go take off, inflation would rocket upwards, given the lean inventories in manufacturing.

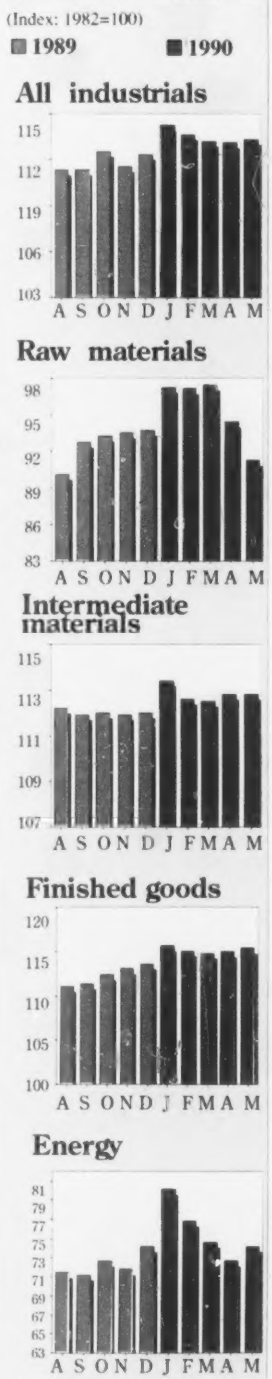
With consumers seemingly more cautious in their spending, a Fed ease seems inevitable if the economy is to steer clear of recession. The concern in this scenario is that restarting the economy may create some temporary market imbalances, traditionally associated with rising prices. Neutralizing potential supply [illegible] demand bottlenecks—at least for petrochemicals, plastic resins, paperboard, boxes, and copper—are the significant additions to capacity these industries will have by year-end.

This month's breakdown

Index 1982=100

	Latest level	% change from: month ago	year ago
Bearings	130.5	0.2	5.0
Bolts, nuts, etc.	116.1	0.0	4.3
Chemicals, inorganic	111.6	0.1	3.5
Chemicals, organic	109.7	0.5	9.1
Concrete products	113.3	0.5	2.3
Corrugated cartoons	109.6	-0.8	-2.9
Cutting tools, small	113.0	0.0	2.8
Electrical lamps (bulbs)	129.8	-0.5	4.8
Electronic components	118.1	-0.3	-1.0
Fans and blowers	122.9	0.1	4.5
Foundry and forge products	116.9	0.0	2.2
Fuel oil (residual)	50.0	-3.5	1.2
Furniture, commercial	133.3	0.5	2.3
Gasoline	71.5	2.7	-7.0
Glass, flat	108.2	0.4	-1.9
Glass containers	120.5	0.4	3.5
Gypsum products	107.1	-0.6	-3.2
Hand tools	134.5	0.2	5.7
Hand tools, power driven	120.8	0.3	4.4
Industrial furnaces	126.4	0.0	1.9
Integrating and measuring instruments	126.3	0.0	6.9
Internal combustion engines	117.8	0.0	3.7
Lubricating oil	115.0	-0.4	7.4
Lumber millwork	130.7	0.1	2.1
Material handling equipment	114.9	0.4	3.3
Metal containers	114.3	-0.5	2.7
Metal mill shapes (nonferrous)	130.8	0.3	-6.2
Metal tanks	114.6	0.6	3.0
Metalworking machines	122.7	-0.1	4.2
Motors and generators	133.5	0.9	4.0
Motor trucks	126.9	-2.8	-1.6
Nonferrous metals	133.9	-0.7	-7.4
Office and store equipment	109.9	-0.1	0.9
Paperboard	135.8	-1.5	-4.7
Paper boxes and shipping containers	130.0	-0.5	0.2
Paper office supplies	120.7	-0.1	-1.3
Paint	124.0	-0.1	4.5
Plastic resins	123.6	0.3	-11.6
Precision measuring tools	128.9	0.0	2.9
Pumps and compressors	118.6	0.4	3.3
Refactories	122.2	-0.3	2.2
Rubber belts and belting	119.0	0.0	5.5
Scales and balances	109.0	0.0	2.3
Switchgear	124.2	0.6	4.3
Textiles, synthetic fibers	106.7	0.1	1.6
Textiles, gray fabrics	117.2	-0.1	2.9
Tires and tubes	97.0	-0.3	-1.0
Transformers and power regulations	121.1	0.5	4.0
Welding equipment	127.6	0.7	4.3
Wire and cable	143.5	0.8	-3.2

Industrial prices



Source: Bureau of Labor Statistics

PROCUREMENT

Slowing deliveries

The nation's purchasing executives report that the uptick in economic activity continues, with both the Production and New Orders indexes rising for the fifth consecutive month in June. The persistence of a strengthening economy has caught some off guard, as PW's July Economic Summit suggested it might. The recent moderate acceleration in growth, along with the drawing down of inventories by manufacturers since the second quarter of 1989, has created an environment where the number of commodities in short supply and higher in price are growing.

Elaborating on the June Report on Business, Robert J. Bretz, C.P.M., chairman of the National Association of Purchasing Management's Business Survey Committee said, "The manufacturing economy ended the second quarter with a moderate, but solid, increase in growth. Manufacturers, with relatively low inventories, were somewhat surprised by the growing demand causing Supplier Deliveries to slow for the first time in over a year. Increased strength in New Orders during the second quarter should provide the basis for a continuation of similar growth as we enter the third quarter."

The number of commodities being reported "up" in price rose to 19 in June, compared to 12 in May. However, 20 commodities were reported lower in price, which is three more than the number in May.

After 13 consecutive months of being reported faster, supplier deliveries were slower in June. On the short supply list are bearings, compressors, electric motors, acrylic acid, caustic soda, soda ash and silicon wafers.

Contractor's opportunities abroad

Domestic construction contracts for U.S. builders in 1989 amounted to \$147.7 billion, a 16% increase over 1988's figure. Greater growth was observed in the level of foreign contracts, which grew 50% in 1989, to \$39.3 billion. In the Engineering News-Record's (ENR) special report of the top 400 contractors, building executives are said to be cautiously optimistic about the future.

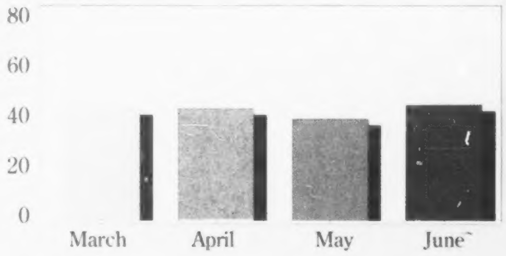
While domestic markets slow and become increasingly competitive, foreign markets provide an arena potentially capable of propelling U.S. contractors throughout the 1990s. During the past two years, U.S. contractors competing worldwide have made significant inroads, winning

NAPM procurement trends

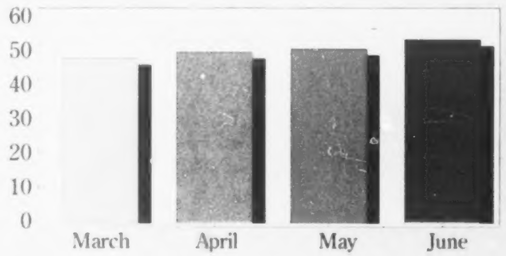
(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend towards lower deliveries is similarly interpreted.

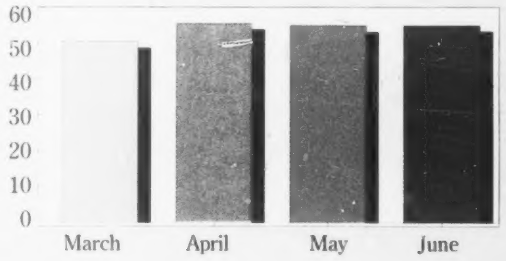
Inventories



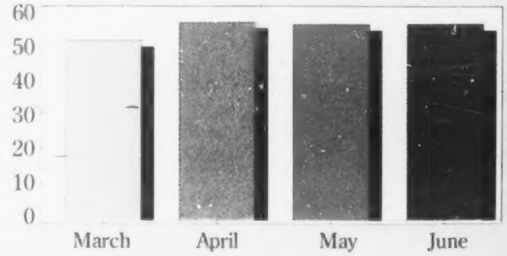
Speed of delivery



Price



New orders



most of their new foreign contracts in Europe and the Middle East. Prospects are also looking bright for the Pacific Basin, including Japan, Taiwan, Indonesia and Thailand. The USSR's movement toward a more free-market philosophy also brings possibilities.

So far in 1990, domestic industrial work has held up for the big engineering and construction firms. The medium and small-sized builders, however, are undergoing some rough times, due to the economy's slow-growth environment. Clearly one of the sectors not experiencing a soft-landing is the construction market. Through the first 4 months, ENR reports that new commercial contracts are down 16% from a year ago.

Few general contractors anticipate a rebound in the major nonresidential U.S. commercial building markets until the excesses erected in the 1980s have been more fully absorbed. Domestically, the most promising building markets during the next two years are in educational, medical and government facilities.

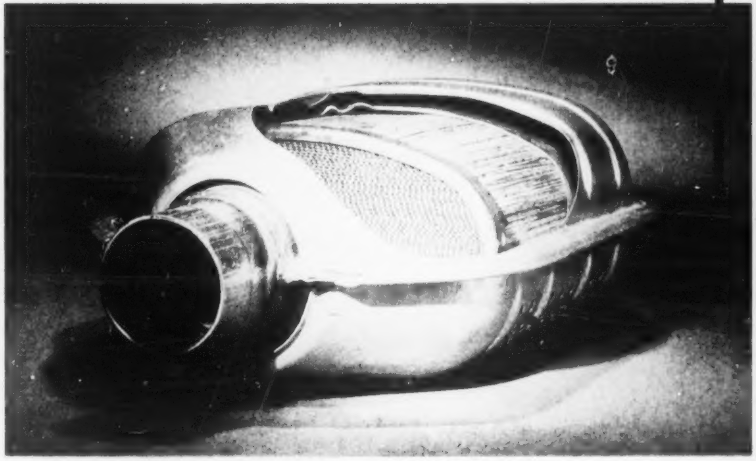
Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Steel, bars, stainless, 303	179.00	179.00	179.00
Steel, bars, HR carbon, 1000 series	18.70	20.20	21.45
Steel, bars, HR carbon alloy, 4100 series	24.50	24.50	24.50
Steel, bars, cold-finished carbon	32.50	32.50	34.50
Steel, plates, carbon,, 23.25	23.95	25.20	
Steel, plates, strip millt.	23.60	23.60	23.60
Steel, plates, alloy	34.05	34.25	34.55
Steel, sheets, C.R., class 1	30.65	30.65	29.65
Steel, sheets, HR	23.00	23.00	22.25
Steel, sheets, stainless, 304	124.00	124.00	124.00
Steel, strip, HR carbon	22.10	22.10	22.10
Steel, strip, CR carbon	36.17	37.00	38.30
NONFERROUS METALS			
Aluminum, unalloyed ingot, lb.	0.72	0.75	0.94
Aluminum, alloyed ingot, 355, lb.	0.93	0.93	0.95
Aluminum, secondary ingot, 380, 30K lb. lot	0.75	0.76	0.73
Antimony, lb.	0.81	0.85	1.05
Cadmium, N.Y., dealer, lb.	3.19	4.40	7.10
Copper, electrolytic wire bars, lb.	1.26	1.26	1.18
Copper, cathode, full plate, lb.	1.19	1.24	1.09
Lead, common, N.Y., lb.	0.48	0.45	0.38
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 50 fl. lots, N.Y., fl.	280.00	285.00	300.00
Molybdenum, oxide, canned, lb.	3.35	3.35	3.35
Nickel, cathode, dealer, lb.	3.93	4.25	6.98
Platinum, dealer, oz.	489.00	492.00	494.00
Silver, N.Y., troy oz.	4.92	5.05	5.18
Tin, N.Y., dealer, lb.	2.90	3.03	3.32
Zinc, high grade, lb.	0.87	0.87	0.90
Zinc, die casting alloy, No. 3, lb.	0.95	0.95	0.98
PAPER (unit=ton)			
Uncoated book #3 offset	940.00	940.00	1020.00
Watermarked bond	1090.00	1090.00	1095.00
Unbleached kraft paper, grocery bag, 30 lb.	660.00	660.00	680.00
Bleached kraft, grocery bag, 30 lb.	800.00	800.00	810.00
Kraft linerboard, 42 lb., domestic, East	370.00	380.00	380.00
Newsprint, 30 lb., East	535.00	535.00	573.00
TEXTILES			
Acrylic, open-end spun, 1/18, lb.	1.52	1.51	1.46
Carded cotton, ring-spun, 18/1, lb.	1.40	1.45	1.36
Carded cotton, open-end spun, 18/1, lb.	1.42	1.44	1.36
Combed cotton, ring-spun, 18/1, lb.	1.83	1.85	1.90
Nylon, textured, 70/20, lb.	2.70	2.68	2.45
Polyester, 50/50% carded cotton, 30/1, lb.	1.85	1.80	1.70
Polyester, ring-spun, 100%, 18/1, lb	1.64	1.62	1.58
Rayon, high-wet modulus, lb.	1.36	1.36	1.34
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	77.00	81.50	123.00
Benzene, petroleum, tanks, Houston, gal	1.30	1.28	1.50
Caustic soda, 76% solid, 700lb. drums, carload	560.00	560.00	525.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, USP, 37%, (12%-15% meth.), tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, 96%, tanks, lb	0.74	0.80	0.79
Methanol, syn., tanks, 4000 gals., f.o.b. Gulf Coast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, molten, tanks, lb	0.33	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.52	0.38	0.49
Polypropylene, homopolymer grade (market price), lb.	0.50	0.37	0.46
Polystyrene, general purpose grade (market price), lb.	0.50	0.49	0.59
Polyvinyl cholride, pipe grade, (market price), lb.	0.40	0.37	0.44
Soda ash, light 58%, 100 lb., paper bags	150.00	150.00	135.00
Styrene monomer, 99.6%, tanks, lb.	0.40	0.37	0.49
Sulfur, crude, ex-terminal, Tampa, FL, lt.	128.00	123.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.75	69.89	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.04	1.02	0.95
Xylene, Gulf Coast, spot, barge, gal	1.03	0.90	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	341.56	354.22	326.95
Lumber 2x4 pine, mbf, cl	340.11	333.38	321.47
Plywood, plyform, 3/4", msf, cl	662.78	671.88	570.00
Plywood, 5/8", msf, cl	387.51	392.46	370.22
Cement, type 1, bulk, ton	62.72	62.72	63.88
Sand, concrete, ton, cl	6.91	6.97	7.17
Ready-mix concrete, 3000 psi cu. yd.	48.95	47.95	48.81
Crushed stone, base course, ton, cl	6.30	6.40	5.84
Concrete blocks, sand/gravel, 8"x8"x16", per hundred	84.28	91.64	87.17
Reinforcing bars, grade 60, per cwt.	22.09	21.88	21.32
Asphalt paving AC-20	108.11	108.01	108.53
Concrete sewer pipe, 24", prem. joint, per ft., cl	18.14	18.16	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	17.00	17.55	20.40
Diesel (reseller rack, Chi.), gal.	0.49	0.50	0.51
Heating oil No. 2 (N.Y.), gal.	0.48	0.53	0.56
Heating oil No. 2 (Gulf spot), gal.	0.46	0.47	0.48
Fuel oil No. 6 (N.Y.) contract cargo	17.40	18.50	18.75
Gasoline (prem unlded N.Y.), gal.	0.80	0.73	0.78
Gasoline (reg unlded N.Y.), gal.	0.64	0.64	0.59
Kerosine (reseller rack, Chi.), gal.	0.56	0.59	0.60
SCRAP MATERIALS			
Copper, No. 1, brass mill scrap, carload	1.18	1.10	1.03
Copper, No. 1, refineries copper scrap, carload	1.10	1.05	0.98
Copper, No. 2, refineries copper scrap, carload	1.01	0.96	0.89
Copper, No. 1, brass ingot makers', carload	1.06	1.07	0.93
Copper, No. 2, brass ingot makers', carload	0.97	0.98	0.84
Brass, yellow solids, carloads	0.62	0.63	0.57
Aluminum, secondary smelters, old sheet & cast	0.49	0.47	0.43
Aluminum, secondary smelters, mixed clips	0.55	0.52	0.50
Zinc, old, smelters scrap	0.30	0.30	0.35
Zinc, die cast slab, smelters scrap	0.36	0.36	0.37

Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), America's Textiles International, Journal of Commerce, Chemical Marketing Reporter, Pulp and Paper Week.

* This page has been revised to better serve you.

Specialty steels compete on performance, price



Allegheny Ludlum's proprietary ALFA IV TM alloy is proposed and being used in tests to replace ceramic substrate in catalytic converters supplied for the automotive aftermarket and being tested as original equipment by auto producers. **Circle 142**

Metals buyers are more knowledgeable, more sophisticated, and more likely to visit a steel plant today than at any time in recent memory.

That's the opinion of a marketing executive of a major specialty steel producer who says that metals buyers are more likely to support suppliers within the buyer's organization. Their mutual interest is making sure that products are designed properly and not over designed.

Metals buyers are simply more demanding. That is especially evident as markets for specialty steels—including stainless and nickel-based steels—become more competitive. Driving their choice of stainless steels and alloy steels are environmental concerns, the need for better performance in difficult operating environments, and the need for quality to make extended warranties, like those in the auto industry, possible.

At Carpenter Technology Corp., Reading, PA, a team of experienced metallurgists works with customers to show how CarTech alloys can be used in the aerospace, automotive, petrochemical, energy, electronic, consumer product, industrial, and machining applications either by selecting an existing alloy or modifying an alloy for the application.

For Allegheny Ludlum Corp., Pittsburgh, the growth of the use of stainless steel sheet and strip which accounts for more than 75% of the market has been consistent over the last 30 years. The trend line (see chart) for the entire period was about 4% per year compounded. In the four years ending 1989, compared to the prior five-year average, the growth was 26%, or 6.5% per year, in spite of the fact that the market in 1989 declined by about 7%.

Contributing to this growth, according to Allegheny Ludlum, are a number of factors. The shiny metal's properties of appearance, corrosion resistance, and heat resistance are unmatched.

Since 1975 price competitiveness of stainless steel sheet and strip tells the real story, according to Allegheny Ludlum. The price index of Type 304 stainless, the most popular grade which accounts for about 40% of the total market for stainless steel, has outperformed the Consumer Price Index, the Producer Price Index, the Aluminum BLS Index, and the All Steel BLS Index for the last 20 years.

Two blockbuster technological developments, the Argon-Oxygen Decarburization Process (AOD) and continuous casting, are credited with reducing variable costs by as much as 20% depending on the grade. The AOD process improved the conservation of chromium by saving about 15 pounds of chromium compared with the prior process for every 100 pounds of chromium used, says Allegheny Ludlum.

Continuous casting has made stainless steels available typically at prices competitive with materials such as aluminum, brass, and coated carbon steels.

The next technological development is already on A-L's drawing board in a joint venture with the Austrian Voest Alpine to design, engineer, and build a commercial size prototype thin strip direct casting machine to produce stainless and carbon steel flat products. The process will bypass not only the ingot process but also the hot strip mill process, greatly reducing the need for cold rolling mills and annealing equipment necessitated by the tendency of nickel-based stainless steel's tendency to harden under rolling.

U.S. market growth for stainless steel sheet and strip

Avg. annual period	Avg. annual tons* (in thousands)	Growth 5-yr. periods
1961-65	403	
1966-70	538	33%
1971-75	646	20%
1976-80	781	21%
1981-85	836	7%
1986-89 (4 years)	1,052	26%

* H.R. & C.R. sheet and strip

Source: Allegheny Ludlum

According to Christopher Plummer of The WEFA Group, Bala Cynwyd, PA, developments in the stainless steel industry will include a lot of investment in technology, more consolidation of producing companies, a greater degree of vertical integration, and more technological innovation.

The stainless steel market is showing a little more strength than many expected particularly after last year's volatile pricing brought on by the quadrupling of nickel prices and tripling of chromium prices. Prices of both materials, important ingredients in the stainless and specialty alloy mix, stabilized earlier this year. If 1989 was pretty much an inventory drawdown year of a devaluing product for stainless steel products, the April SSCI data point shows a year-on-year increase in orders—the first such gain in a long time.

Because specialty and stainless producers are more dependent on steel service centers to reach their markets, the service centers were caught in their worst inventory position last year—holding a devaluing commodity.

As one specialty tubing service center executive put it: "Our buyers are specialists who are constantly facing the question: What's my best inventory position? In a volatile market like last year's, we have to move the high cost inventory fast."

Once the market for both stainless steels and specialty nickel-based alloys returned to some semblance of order earlier this year, metals buyers could focus on the problem at hand: finding the best combination of metallurgical properties for quality and performance-based applications. According to Allegheny Ludlum, here's how some markets have grown:

During the last 15 years, the automotive industry has increased the use of stainless steel per vehicle from 10 lb to 70 lb with the total expected to reach 100 lb during this decade. Typical auto applications include bumpers and bumper guards, transmission oil coolers, and disc brake rotor webs.

Should more corrosive fuels such as ethanol and methanol be used in future cars, new fuel line and tank systems would be required.

Energy applications for stainless include flexible stainless steel pipe for offshore oil and gas delivery systems, deep gas wells, or as retrofit service water piping in nuclear power plants. Environment and life cycle costs of equipment in capital intensive industries are major considerations in selecting stainless steels. Applications include nuclear power plants for retrofit service water piping or in pulp and paper plants where the corrosion resistance characteristics of stainless steels are sought.

Aerospace applications require either high temperature or high strength alloys. Nickel-based alloys can be used in applications where temperatures exceed 1,000 F, explains John P. Ziemianski, director of market development and product engineering, Allegheny Ludlum. High strength alloys are precipitation hardened, iron-based alloys that develop extremely high strength through a low temperature heat treatment. They are designed for high strength at ambient temperatures to 800 F and provide good formability in an annealed condition for such applications as springs, valves, tubing, and turbine engine parts.

Aerospace applications for nickel-, chromium-, molybdenum-, and nitrogen-based stainless alloys include engine and turbine components, landing gear equipment, and isolated structural elements.

Carpenter Technology's Project 70® Type 316 stainless steel provided consistent reject-free machining of this transducer housing produced by Digital Machine Co., Warminster, Pa. Circle 141

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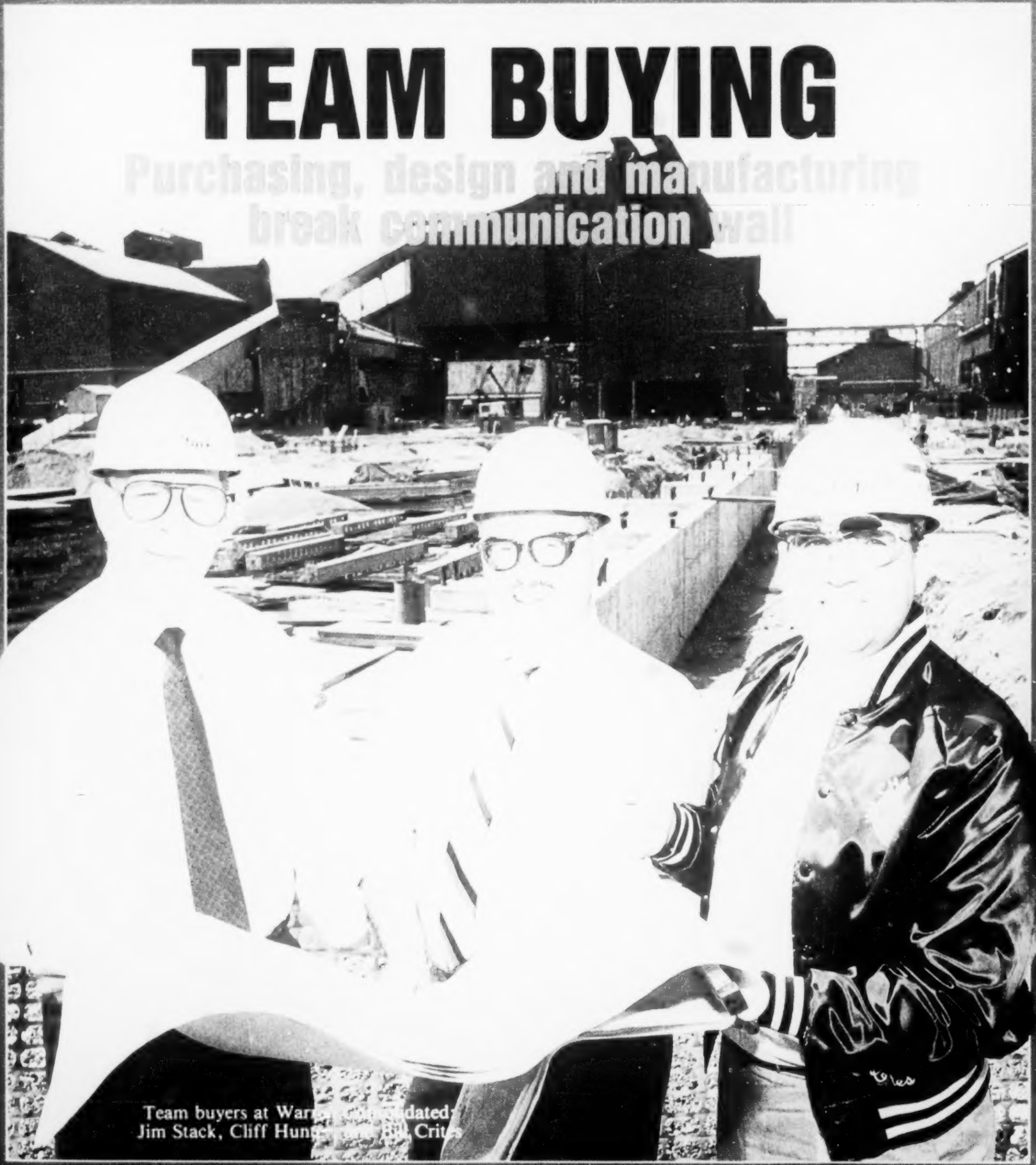
MANAGING THE BUSINESS OF BUYING SEPTEMBER 1990

TEAM BUYING

Purchasing, design and manufacturing break communication wall



Team buyers at Warr[illegible]dated:
Jim Stack, Cliff Hun[illegible] Crites

- Negotiate for value • "Gut feel" fades
- Nonferrous pricing

Transportation report

CONTENTS

Sept 1990, Vol. 34, No. 9

COVER STORY

34 Team buy breaks communication wall

When Warren Consolidated set out to buy a continuous caster for its steelmaking operations, the whole company got involved. The results, company execs report, are excellent.

FEATURES

30 Cold reduction has hot potential

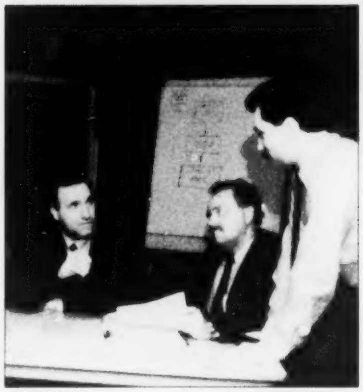
A process to deliver truly flat steel could be a boon to buyers.

32 Gut feel to fade

Buying on intuition isn't good enough any more.

38 Transportation: Supply pressures drive costs

Indicators suggest freight costs will go higher, but at a modest pace.



Warren Consolidated's employees can all contribute to the buying of their continuous caster. Page 34

Regional trucking offers overnight shipping in defined areas. Page 41

FEATURES

39 Transportation: Buying transportation is getting easier

You may not feel this is true, but at least in transportation buying is getting less complicated.

41 Transportation: Your customers are only a day away

Here's how the Con-Way Companies are offering overnight service within specific regions of the country.

46 Cheap parts mean cheap products

As long as PMs buy on price alone, poor quality and bogus fasteners will continue to plague government and industry.

DEPARTMENTS

4 PW Pointers

6 Editorial

11 Inside purchasing

Certification and promotion; expediters talk back.

12 Negotiations

Negotiate with an eye on value.

15 PW Predicts

Recession unlikely; commodity briefs; air(craft) wars.

21 Business Datatrak

The NAPM's PM index trends down; how to calculate an I/S ratio.

56 Events

57 New products

60 New literature

63 Advertisers' index

63 Classified

68 Purchasing and the law

The clause that failed to protect.

PurchasingWorld

Lighting that's light on your wallet

GE Lighting suggests these tips saving electricity in lighting your home and business:

- The higher the wattage, the more energy the bulb uses. The higher the lumens, the brighter the light. Your best bet is the bulb that gives you the most lumens for the fewest watts.
- Use three-way bulbs in all of your three-way lamps, and switch them to lower settings to save energy when bright light isn't needed.
- Halogen floodlights offer up to 40% energy savings over standard floodlights while giving the same amount of light.
- High-pressure sodium, mercury-vapor, or quartz lights are up 70% more energy-efficient than standard incandescent bulbs in outdoor security applications. *General Electric Company, Nela Park, Cleveland, OH 44112*

Purchasing policies at your fingertips

Understand, analyze and reform public purchasing policies with "The Model Procurement Code." Now in its 4th printing, the book covers the essential features of an effective system, including specifications, contractor selection and administration, cooperative purchasing and supply management. It also proposes ways to resolve disputes as well as ethical standards for government employees and vendors. Cost is $49.95. *The American Bar Association, 750 N. Lake Shore Dr., Chicago, IL 60611* **Circle 20**

Plastic packaging innovators to be honored

Innovations in plastics food packaging and processing technology, will be recognized in the fifth annual Du Pont Awards Competition. This is the first year, however, the company is encouraging entries world-wide as they help respond to the challenge for providing fresh, tasty, convenient and safe food. Entries that have been test-marketed or commercialized between June 15, 1989 and November 15, 1990 are eligible for the 1990 competition. *Du Pont Company, Wilmington DE 19898* **Circle 13**

Earn certification in resource management

The American Production and Inventory Control Society (APICS) has announced the development of a new professional education and testing certification program. Certified in integrated resource management (CIRM) is designed to educate the managerial "generalists" of the future. The testing areas include markets, logistics, manufacturing processes, integrated services and a final exam. *APICS, 500 West Annandale Rd., Falls Church, VA 22046-4274* **Circle 44**

Make employees into athletes

On- and off-the-job injuries cost employers billions of dollars annually due to lost work time, group medical and worker's compensation claims. A program called Athletes in Industry® addresses these rising costs through the implementation of cost-effective injury prevention and safety programs. The programs use a physician-approved flexibility stretching program. It teaches basic stretching exercises that contribute toward reducing on-the-job injuries when they most often occur—during the first few hours of the workshift and during overtime. *Athletes in Industry, 321 N. Rampart St., Suite 225, Orange, CA 92668* **Circle 50**

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PW PREDICTS

Buyers beware:

Recession unlikely, but triggers still exist

The consensus is still predicting slow growth—rightly so in my judgement. Fueling this continued optimism is the recent move by the Federal Reserve, on July 13, to reduce the federal funds rate. In so doing, the Fed sent a clear signal that it has eased monetary policy.

This easing of credit provides the economy with a much-needed boost. Unfortunately, changes in monetary policy impact the economy's output level with a lag. It is reassuring to know, however, that after all the zero inflation rhetoric, our monetary policymakers are not going to actively let the economy drift into recession as a consequence of their war on inflation.

But is the Fed's rate-cutting move in time? Is it sufficient in magnitude? While it remains unlikely the economy will stagnate itself into an economic downturn, a number of recessionary triggers could still incite a correction.

Keep your eye on consumers, the economies of our major trading partners and the Fed. These three groups represent the traditional triggers of recession in the United States. One other factor requires monitoring: fiscal policy, which could once be taken for granted, is now presenting additional risk.

Consumers are challenging the assumption that their spending will keep the economy moving forward. The dramatic slowdown in employment growth and real wage income has led to visible weakness in retail sales and consumer expenditures. In fact, spending is at its weakest level since 1982, the year our current expansion began.

The Fed's latest move should put an end to declining confidence by consumers. Without a stimulant, such as rapidly rising rates of inflation, unemployment or interest, further retrenching by consumers is not likely.

The second type of recession scenario, one triggered by factors outside the United States, has historically been associated with oil. Risk associated with an oil shock of the appropriate magnitude has now increased, given Iraq's recent invasion. German unification, along with political and economic reform in the Soviet Union, also generate ample concern. The volatile Tokyo stock market and excessive valuation of Japanese real estate don't add stability to the global arena either.

These events are especially troublesome now, given the current period of slow growth which has made the U.S. very vulnerable to external shocks.

Federal Reserve activity is the third recessionary trigger of concern. The leading cause of economic downturns in the post World War II era has been excessively restrictive monetary policy, either actively engineered or passively permitted by the Fed.

The Fed's recent ease is appropriate, both in direction and magnitude. Though a fullblown credit crunch wasn't visible, one was building. The probability that the Fed's recent move will lead the economy out of its soft-landing, slow-growth position and into a period of inflation-stimulating expansion, is small. Gross national product (GNP) will most likely continue to grow at a pace below the long-run trend of 2.5%. Therefore, the excessive demand that is necessary for true inflation to be triggered is not present. If the construction biases in the inflation indexes start to display rising price pressures, don't panic. Any inflation spurt will be temporary, unless GNP surges to above 2.5% at an annual rate.

Possibly the greatest risk to the nearly eight-year-old expansion comes from the fiscal side. The Federal budget deficit is again on the rise, and it may come in as much as $50 billion above the Gramm-Rudman-Hollings fiscal year 1990 target. With the size of the peace dividend shrinking as a countering force, President Bush's lips said the T-word on June 26. If thoughts of tax hikes turn into reality, they couldn't come at a worse time.

Recessionary triggers are always and everywhere a threat to economic activity. The Fed's recent easing of credit, aimed at providing the economy with a small but firm push toward continued growth, has also tempered the negative expectations associated with potential tax hikes. Unfortunately, with escalating turmoil in the Middle East, monetary and fiscal issues are no longer the primary determinants of domestic economic health.

By John Sheridan

Air cargo adapting

Overview: Domestic air express has provided air cargo carriers with an outstanding vehicle for growth during the current expansion. Since 1982, express volume has expanded nearly 20% annually. Whether future performance by air cargo carriers is as outstanding depends primarily on their ability to adjust to technological change.

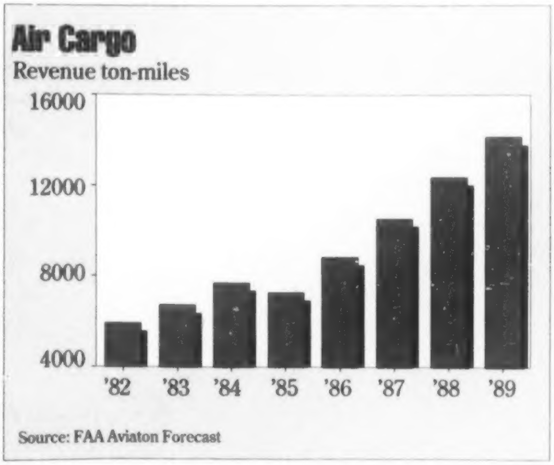
Demand: Not only is the express mail market saturated, the facsimile revolution has drastically cut the need for overnight document transport. Operators are now turning toward box (goods) shipping in hopes of exploiting a new market niche.

This new emphasis on the heavy shipment market is being accompanied by a guarantee of timely delivery. Carriers are pushing the idea that they can become an integral part of the just-in-time manufacturing system because of their ability to transport parts and materials on time, as needed.

Supply: While rates of growth have been phenomenal in terms of volume, major carriers have not enjoyed revenue increases of the same magnitude. The air cargo industry has been extremely competitive, with price cutting the norm throughout much of the 1980s.

This highly competitive environment forced a number of carriers to at best, redefine their market, or in worse cases, merge. In air express, only three major players remain as the decade of the '90s unfolds: Federal Express with roughly 45% of the market, United Parcel Service (UPS) with 26%, and Airborne, which accounts for another 10%.

Outlook: Price hikes during the past two years, as well as the 5%-plus hikes expected this year, suggest the pricing wars which were so much a part of the past decade, are now just a memory.


Air Cargo

Revenue ton-miles

Source: FAA Aviaton Forecast

Polycarbonate demand ascending

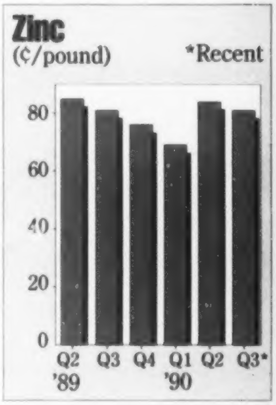
The Freedonia Group estimates that polycarbonate resins will occupy the leading position within the North American engineering resin industry by 1994. Demand from auto and other transportation sectors will fuel growth of 9% annually over the next 5 years. The Cleveland-based research firms expects the electronic and construction markets to also represent areas of strong consumption.

Plant explosion shocks styrene

Impact from the July 5, Arco Chemical (Channelview, TX) plant explosion is still working its way through the petrochemical market. The outage of styrene rocketed prices upward. Styrene spot prices rose 15¢/lb after the blast, topping the 60¢/lb barrier. Although some easing has occurred, styrene prices are still at 53¢/lb.

Zinc prices heading south

Since February, zinc prices have been climbing, but according to Rudolf Wolff & Co. Ltd., London, the market has reached a turning point. Low producer and terminal stocks will prevent a quick reduction, but the latest rally has fizzled and forces exist which suggest a period of weakening prices. Working to drag prices down: no rebound in U.S. consumption is expected this year; demand in other parts of the world, most notably Brazil, is also beginning to fall; early-year supply disruptions are abating; and despite these supply problems, production in 1990 is 3.4% above the year-ago pace.


Zinc

(¢/pound) *Recent

Linerboard export tags to rise

Unexpected strong summer demand has led U.S. linerboard producers to announce a price hike of $30-40/metric ton effective September 1 for export customers. Promoting this recent spurt in foreign demand is the recent weakening of the dollar. Expect the export price hike to stick. The WEFA Group reports that current U.S. linerboard prices in Germany are roughly $80/ton below those of European producers. Domestically, linerboard prices remain about $40/ton below their year-ago level, with discounting from the current $370/ton price still the market norm.

Rail profits squeezed

Overview: With revenues and ton-miles rising slowly, operating profits for Class I railroads are projected by Standard & Poor's to take another hit in 1990, but nowhere near the 6% decline witnessed in 1989. The New York-based research firm notes that while there are still cost-cutting improvements to be made, the industry is finding it harder and harder to boost profits primarily through cost reduction.

Demand: Since profit peaked in 1988, revenues have been growing at less than 1% annually. Despite rail traffic reaching a record level last year and another ton-miles record expected this year, rate hikes have been hard to pass along. Freight rates aren't even mirroring price movements by the economy in general.

Coal, which accounts for roughly 40% of all rail traffic, performed extremely well during the first quarter.

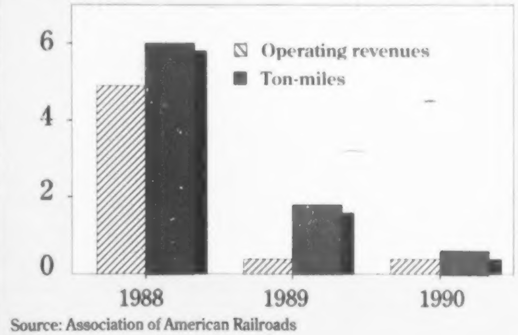
Unfortunately, the slow-growth economy has stagnated carloadings by rail's other major users: metals, chemicals, grain, lumber and autos. Shipments of autos were off nearly 20% after three months, but some improvement is likely during the remainder of the year, assuming no labor disruptions. Rail's heavy investment in new enclosed tri-level auto racks should also start to attract additional business in this sector, but weak final demand tempers any outlook.

Supply: Despite the weakened economic environment, intermodal shipments are vibrant. Spurred by double-stack shipping, container movement (COFC) rose 7.6% during the first quarter.

Outlook: The modest revival in manufacturing has allowed coal and metals shipments to relatively offset the suboptimal performance of grains, lumber and chemicals. With the hard times likely to continue for these three sectors, rail performance becomes greatly dependent on manufacturing, where the future is clouded at best.

Railroads

Year-to-year percent change



Source: Association of American Railroads

Resin tags at crossroads

Despite plastics demand holding up better than expected, prices are mixed, with commodities poised at the crossroads for further divergence. Polyethylene (PE) tabs have already fallen 3¢/lb in the past month. Further decline is likely through year end, since ethylene prices are expected to slide once planned new crackers are brought on. A slide in ethylene prices means cheaper vinyl chloride monomer and styrene too, with easing polyvinyl chloride (PVC) and polystyrene (PS) prices probable later in the year.

Oversupply is starting to erode prices for linear low-/high-density PE (LLDPE/HDPE), overturning increases witnessed during the second quarter. Producer discounting is prevalent in both the HDPE and LLDPE markets. Market share has become a major concern with 2 billion lbs/year new capacity scheduled to come onstream by year end.

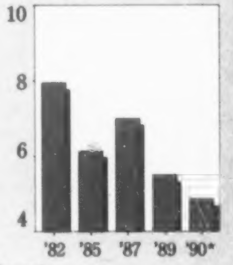
Polypropylene (PP) could take the high road. So far this year PP has held steady, but firm demand and little new capacity coming online this year suggest a possible price rise before 1990 ends.

Silver producers upset

Since 1987, silver prices have maintained a downward trend. August prices are roughly $3/troy ounce below their three-year-ago level. Given the market's already fragile foundation because of plentiful supply, producers are protesting the efforts of the U.S. Treasury and the National Defense Strategic Stockpile to reduce reserves. But analysts at Samuel Montagu & Co. Ltd., London, feel that bargain buying and industrial stockpiling will keep near-term prices from drifting below $4.80/troy ounce.

Silver

($/Troy ounce)



*Recent

Nickel chaotic and higher

Spot nickel prices on the London Metal Exchange (LME) have displayed wide swings since mid-July. The year's highest LME spot price was established on July 16, $4.67/lb. As of early August, prices remained volatile, but above $4.50/lb. Supply pressures, a now-concluded strike and scheduled summer shutdowns, along with unexpectedly heavy buying, combined to inflate prices. No quick turnaround is in sight, as stainless mills in Europe and elsewhere are nearly booked through year end.

Commercial air booming

Overview: Despite the negative aspects associated with the seemingly inevitable cuts in military aerospace spending, which will force major restructuring throughout the entire industry, the commercial aerospace industry is in the midst of its greatest boom ever.

Demand: Three factors are driving the extraordinary surge in new large commercial aircraft orders: estimated growth near 6% for passenger miles over the next 10 years; replacement of aging fleets and noise regulations which will force the retirement of certain older models, despite their airworthiness. Boeing estimates that 70% of new orders will be fueled by the need for additional aircraft to meet worldwide passenger traffic, with replacement of obsoleted aircraft accounting for the remaining 30%.

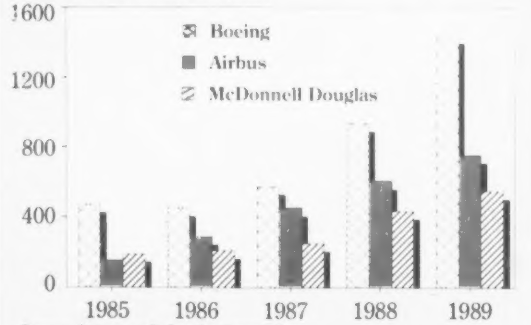
Supply: Following the last depression, when Lockheed was forced to exit the market, only two U.S. builders of large jet transports remain: Boeing and McDonnell Douglas. U.S. manufacturers continue to lead the world aerospace industry, but Airbus Industrie has emerged as a major contender, with global competition becoming increasingly intense.

Combined orders for the three major manufacturers jumped 42% in 1989. Incredible as it seems, this is down from the 52% increase in orders registered in 1988.

Outlook: The best-case scenario suggests that output from the big three will total 650 deliveries in 1990. Though this 650 represents a jump in output of nearly 30% over last year's total, future production increases will be far less. For example, Boeing's production rate in 1992 is anticipated to be 41 planes per month, up only marginally from the current rate of 34. It seems unlikely, given the magnitude of work done by subcontractors, that production boosts of more than 15% annually can be established.

Commercial air backlog

Number of aircraft on order



Source: Aerospace Industries Association

Industrial diamond demand soars

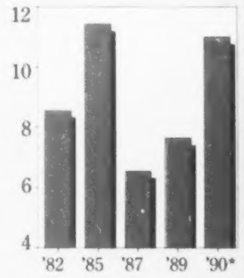
The American Diamond Industry Association (ADIA) reports that the industrial need for caratage is growing extraordinarily. ADIA figures suggest that the Western World alone needs four to five times the level currently available from mining.

A breakthrough by General Electric (GE) Schenectady, NY, may allow some of the industrial market's excess demand to be met. GE scientists claim to have created a better diamond for conducting heat and resisting damage from lasers. The diamonds will be manufactured at GE Superabrasives (Worthington, OH), with the market for the new product possibly reaching $100 million per year.

Supply fears jolt cobalt

Cobalt

($/lb.)



*Recent

Prices have taken a healthy jump after staying within a narrow range for more than three years. Though the official producer price, which is set by African producers and is not due to be changed until later this year, remains at $8.40/lb, the current spot price is trading in a range of $10.50-$11.50/lb. This strong price jump is said to be the result of minor supply glitches, with regular large-volume buyers not affected. But that could change soon; compared to last year, when demand slumped 6.3%, 1990's consumption pace is up. With the five-year demand outlook healthy and potential production problems surfacing in Africa, prices could be quite volatile for the remainder of the year.

Electronic industry to rebound

While 1990 growth is expected to be roughly 2% below the 5% pace observed last year, next year looks quite bright for the industry overall. Henderson Ventures predicts that contraction in the military sector will be more than offset by commercial market performance over the next two years. The Los Altos, CA research firm expects total electronic industry growth of 7% in 1991 and 9% in 1992.

Aluminum ingot exports up

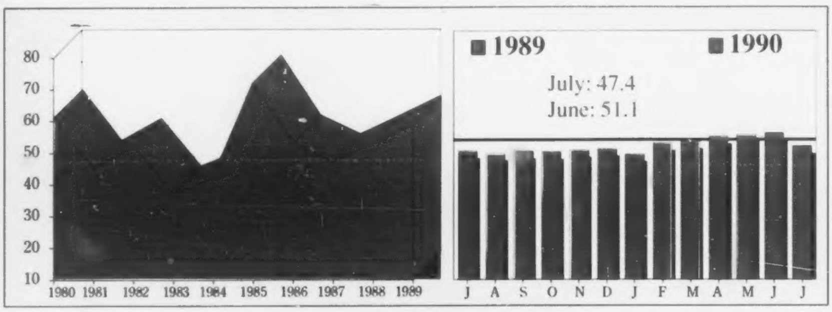
While domestic demand for aluminum ingot fell 10% during the first quarter, the export arena performed incredibly well. Ingot exports are up over 70%, while mill products haven't retreated, up 0.5% over last year's 30% jump.

BUSINESS DATATRAK

by John Sheridan, chief economic editor

N. A. P. M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Accepting the data reality

Even inhabitants of the monetary ivory tower are worried that turbulence is threatening their soft landing. Grudgingly, Alan Greenspan and the Federal Reserve have admitted that the economy's slow-growth scenario has gotten a little too inert. In an attempt to avert an all-out correction, monetary policymakers have finally eased their grip on money.

While recent data suggests a slight pick-up in manufacturing activity, signs of underlying weakness persist, with our economic foundation seemingly becoming more fragile. Except for those in the services markets, (the one sector pulling the economy forward), the Fed's recent easing of credit is a much-needed relief.

Recession already encompasses nearly half our economy. While there are regional variations which complicate generalities, on the whole, the following sectors are retreating: consumer spending on goods, homebuilding, nonresidential construction, and defense spending. Together, these components account for roughly 45% of inflation-adjusted gross national product.

It doesn't take a rocket scientist to understand why consumers have become more cautious. Slower income growth, accompanied by a tightening job market (see chart) and some major layoff announcements, have promoted an attitude shift by consumers. So too has the announcement from our president of possible new taxes.

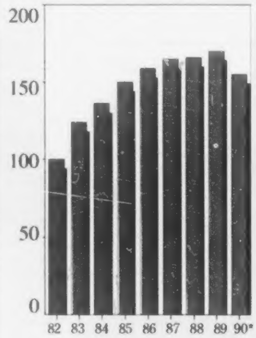
The Fed's lowering of interest rates should counter the warning signals which have been working to erode the levels of confidence (see chart) and spending exhibited by consumers. However, a consumer-led recession is no longer out of the question. If spending by consumers continues to deteriorate, trouble could lie ahead.

Hopefully, the Fed's monetary policy change will stimulate a revival in construction (see chart), but don't count on it. The housing market is near comatose, with new home sales falling to levels not seen since the last recession in 1982. Construction, however, is not alone in its misery.

Manufacturing profits are also bearing the brunt of the Fed's inflation war. First quarter after-tax profits in manufacturing were down nearly 5% from the fourth quarter of a year ago. The correlation between corporate profits and future unemployment

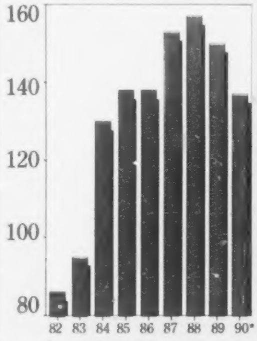
Leading indicators

Construction contracts
Index 1982=100



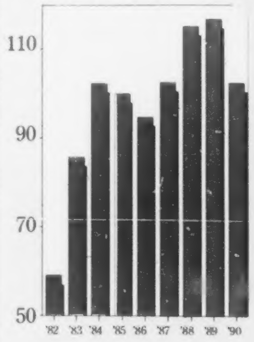
*Recent

Help wanted
Index 1967=100



*Recent

Consumer confidence
Index 1985=100

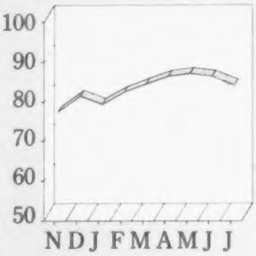


*Recent

Source: The Conference Board and F.W. Dodge

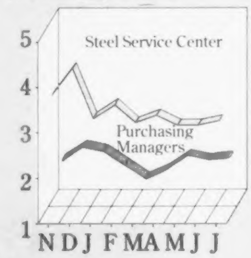
Steel

Operating rates



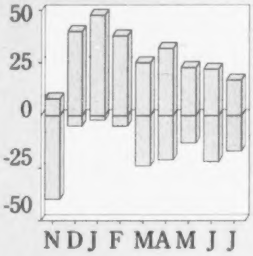
Inventories

(months supply on hand)

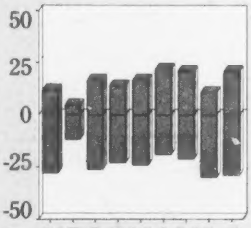


Demand (Steel Service Centers)

(Percent of respondents)



Demand (NAP M)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

is strong. Unemployment has been stabilized by temporary government worker hirings for the census. Moreover, the gradual cutting of manufacturing workers has allowed the unemployment rate to absorb the change. After people collect unemployment for 26 weeks, they no longer count as being unemployed. That's why looking at job growth as measured by the payroll numbers, which has slowed dramatically since last year, is a much better barometer for employment health.

The inflation warlords, however, have finally breached the data warp. They have accepted the data reality that promoting excessive weakness in the goods-producing sector, in order to get inflation down in the service sector, is not the socially optimal thing to do.

METALS SCENE

Steel

Steel service centers continue to exceed their year-ago performance. Through the first six months, the average daily shipping rate (ADSR) is 1.5% ahead of last year's pace.

Despite a drop in the ADSR of stainless (6.8%) and alloy steel (2.3%), June's ADSR topped May's strong showing. Shipments of tubular and structurals, up 5.8% and 4.2% for the month, provided most of the impetus.

Despite the fall in the ADSR of stainless, from 1.33 in May to 1.24 in June, and a similar fall by alloy, from 1.3 in May to 1.27 in June, both products are up significantly from their year-ago levels. Demand from service centers for stainless is up over 10%, while structurals consumption is up over 8%.

Steel Service Center Institute President Andrew G. Sharkey expects activity to remain solid, saying, "We anticipate a relatively stable second half, though economic conditions continue to vary widely both by region and product."

Inland Steel Chairman Frank W. Luerssen commented that "Incoming orders for most steel mill products remain strong, and demand at our service centers is increasing modestly. We expect volumes to remain good through the balance of the year, although price recovery will be slow."

As of July 1, the major mills have been trying to pass along a $15-per-ton price hike, but it is likely to be only partially absorbed, according to the WEFA Group, Philadelphia. WEFA's current forecast does, however, look for the price on volume purchases of cold rolled carbon sheet to be moving higher by mid-third quarter, possibly to $460 per ton.

Import prices

(Compared to domestic)

Steel buyers
ABOVE 50%
SAME 25%
SLIGHTLY BELOW 25%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 74%
6-10% BELOW 24%
11-20% BELOW 0%
OVER 20% BELOW 0%

Scrap prices

Ferrous scrap prices displayed a gradual but steady decline once the Fed's soft landing kicked in last year. With economic activity not expected to rebound substantially in 1990, most industry observers predicted further drops in price this year. But, as is so often the case with metals nowadays, supply is the side of the market to keep an eye on.

The upward spike in scrap prices begun last spring has taken many by surprise. The combination of long-run structural changes and short-run disruptions has created a bottleneck on the supply side.

Partial explanations for the supply bottleneck include: steel mills becoming less of a scrap source because of expanded continuous casting and general operational improvements, strong offshore demand, and the fact that higher prices in the past few years have led to a drawdown in inventories. With demand not withering to the degree expected, no countering force to the tight supply conditions is on the horizon.

REGIONAL PERSPECTIVE

X pattern

Alphametrics, an innovative leader in economic analysis and economic software, has constructed a leading-edge index for measuring the current comparative performance of U.S. metropolitan areas.

The Bala Cynwyd, PA, researchers define the United States' current economic environment as a trend phenomenon, not the consequence of rolling recessions, with "the national economy continuing to enjoy moderate growth, but with some industry and region specific softness."

The analysts maintain that this industry and region-specific softness continues to reveal an X pattern. Cities in the Southeast and Far West are generally expanding, cities in the Southwest and New England areas continue to struggle, while performance in the heartland of America, the Midwest, remains mixed.

In the first quarter, only four cities remained in the top ten from 1989. Las Vegas continues to be in a class by itself (see top ten chart), primarily because of its heavy concentration of services employment. Also continuing fine 1989 performances were Sacramento, Seattle, and San Diego.

Cities that aren't very diversified and which depend heavily on manufacturing performed quite poorly during the first quarter, as the list of the bottom ten indicates. Since its peak in the spring of 1989, manufacturing employment has continued to slide, with the correlation between economic health and the service sector likely to persist. To date, any revival in industrial activity has not been significant.

While the Pacific easily keeps its rank as the fastest growing region, a revival by many midwestern and oil patch cities seems to be under way. Manufacturing and defense cuts linger in the New England area, where regional performance is clearly the poorest (see regional chart).

Top 10 Growth Cities

Percent change, 1989:4 to 1990:1

Las Vegas, NV	2.95
Fresno, CA	2.25
Sacramento, CA	1.42
Bakersfield, CA	1.35
Charleston, SC	1.28
Seattle, WA	1.27
Baton Rouge, LA	1.25
Tulsa, OK	1.24
Nashville, TN	1.23
San Diego, CA	1.18

10 Cities of Interest

Percent change, 1989:4 to 1990:1

Atlanta, GA	1.13
Charlotte, NC	0.84
Kansas City, MO	0.67
Norfolk, VA	0.63
Pittsburg, PA	0.57
Minneapolis, MN	0.39
Denver, CO	0.23
Cleveland, OH	0.19
Chicago, IL	0.11
Dallas, TX	-0.09

Bottom 10 Growth Cities

Percent change, 1989:4 to 1990:1

Boston, MA	-0.43
Rochester, NY	-0.43
Allentown, PA	-0.44
Hartford, CT	-0.51
Sprinfield, MA	-0.69
New Haven, CT	-0.74
Worcester, MA	-0.76
Detroit, MI	-0.97
Toledo, OH	-1.62
Youngstown, OH	-2.22

Regional Growth

Percent change, 1989:4 to 1990:1

Pacific	1.07
East South Central	0.64
West South Central	0.63
South Atlantic	0.59
North Atlantic	0.25
North Central	-0.06
New England	-0.40

CURRENT PRICES

Price trends at risk

The uptick in demand which has sent leadtimes and prices higher for certain commodities during the past few months is waning, with domestic factors pointing toward continuing moderation. Unfortunately, new concerns on the international front have increased the risk of an oil shock which is capable of completely negating the Fed's inflation warplan. And, equally as bad, a significant oil shock would certainly put the economy in recession.

Since the first quarter run-up, easing fuel prices have been a driving force in the Producer Price Index's (PPI) downward tilt. Even more impressive is the fact that the PPI, excluding food and energy, has trended downward for more than a year now.

The moderating pace of inflation at the producer level reflects the domestic economy's lackluster condition, especially in the machinery, equipment, auto and construction markets. Worse yet, indicators such as the NAPM Report on Business suggest that the slight revival manufacturing embarked upon during the second quarter has fizzled.

With manufacturing back in the lethargic state which encompassed it for most of the past year, the economy's ability to absorb significantly higher oil prices for an extended period of time seems slim. If prices were to rise $5-$10 dollars a barrel and remain there through a harsh winter, a return in 1991 to the stagflation which marked our last recession is highly probable.

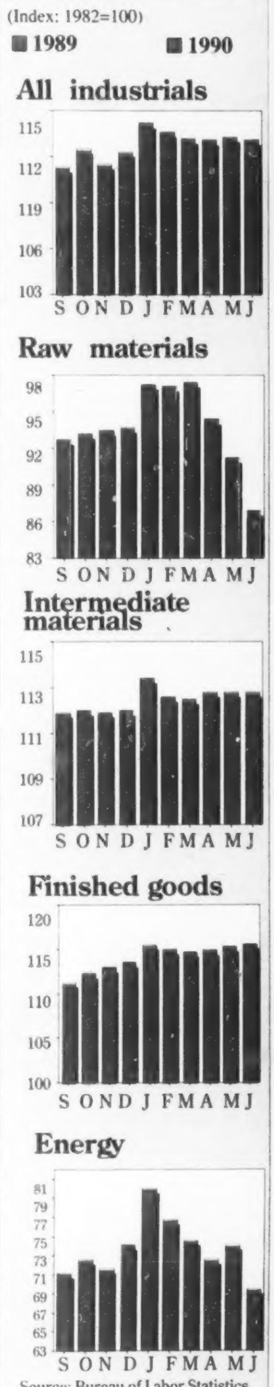
Even weak domestic activity won't constrain prices if oil costs stay high.

This month's breakdown

Index 1982=100

		% change from:	
	Latest level	month ago	year ago
Bearings	131.3	0.6	5.5
Bolts, nuts, etc.	116.4	0.3	4.3
Chemicals, inorganic	111.3	-0.3	3.1
Chemicals, organic	110.3	0.5	-6.2
Concrete products	113.3	0.0	1.9
Corrugated containers	109.0	-0.5	-3.0
Cutting tools, small	113.0	0.0	2.7
Electrical lamps (bulbs)	129.9	0.1	4.3
Electronic components	118.4	0.3	-1.0
Fans and blowers	123.5	0.5	5.0
Foundry and forge products	116.9	0.0	1.6
Fuel oil (residual)	43.1	-13.8	-15.8
Furniture, commercial	133.6	0.2	3.9
Gasoline	72.2	1.0	-3.6
Glass, flat	107.9	-0.3	-1.4
Glass containers	121.1	0.5	4.5
Gypsum products	106.2	-0.8	-3.8
Hand tools	134.4	-0.1	5.4
Hand tools, power driven	121.3	0.4	4.7
Industrial furnaces	127.7	1.0	3.0
Integrating and measuring instruments	126.9	0.5	5.6
Internal combustion engines	119.4	1.4	5.0
Lubricating oil	115.1	0.1	3.3
Lumber millwork	130.6	-0.1	1.8
Material handling equipment	115.1	0.2	2.8
Metal containers	114.3	0.0	2.5
Metal mill shapes	128.7	-1.6	-6.1
Metal tanks	110.1	-3.9	-1.1
Metalworking machines	122.8	0.1	4.0
Motors and generators	133.7	0.1	3.6
Motor trucks	126.6	-0.2	-1.6
Nonferrous metals	132.0	-1.4	-5.8
Office and store equipment	110.1	0.2	2.0
Paperboard	135.4	-0.3	-4.0
Paper boxes and shipping containers	129.7	-0.2	-0.3
Paper office supplies	120.5	-0.2	-1.1
Paint	124.5	0.4	4.4
Plastic resins	123.9	0.2	-10.2
Precision measuring tools	128.8	-0.1	2.8
Pumps and compressors	119.1	0.4	3.2
Refactories	122.7	0.4	2.6
Rubber belts and belting	119.2	0.2	4.7
Scales and balances	109.1	0.1	2.2
Switch gear	123.8	-0.3	3.8
Textiles, synthetic fibers	106.5	-0.2	0.3
Textiles, gray fabrics	117.6	0.3	2.7
Tires and tubes	97.0	0.0	-1.0
Transformers and power regulations	119.8	-1.1	1.3
Welding equipment	127.6	0.0	4.4
Wire and cable	140.9	-1.8	-2.2

Industrial prices



Source: Bureau of Labor Statistics

PROCUREMENT

PMI's drop says "Boom" over

The best of manufacturings' brief revival appears to have passed. According to the latest NAPM Report on Business, the manufacturing sector reached a turning point in July. Following a three-month period when the association's index reported strengthening expansion, July's figure not only dropped, but plummeted into the contraction zone.

With 50 standing as the median between expansion and contraction in the Purchasing Managers' Index (PMI), July's reading of 47.4 isn't taking any changes by riding the fence—the direction, magnitude and implication of the new number are clear. Manufacturing has failed to escape the wrath of the Federal Reserve's soft-landing and is continuing to bear the brunt of the nation's slow-growth environment.

After strong second-quarter increases, new orders dropped dramatically, to their lowest point since January, prompting the PMI's changing status. The drop in new orders accompanied by a sharp decrease in July inventories suggests that purchasers are increasing their efforts to work off existing inventories.

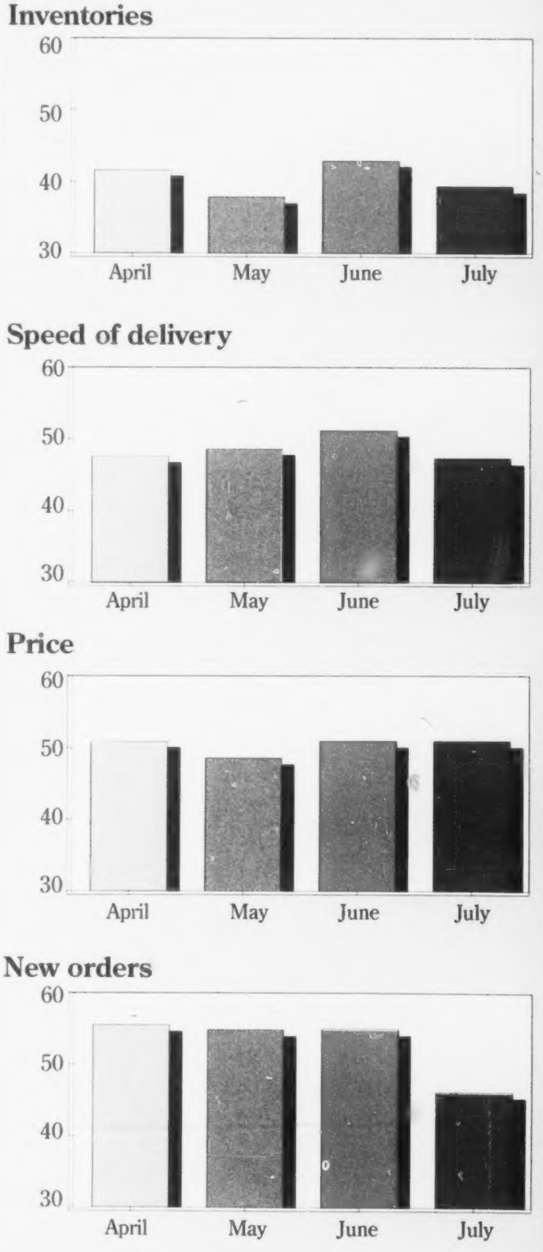
Robert J. Bretz, chairman of the NAPM's Business Survey Committee, commented "The PMI has averaged 48.8% for the first seven months of 1990. If the PMI remains unchanged at the July level for the balance of the year, then past experience indicates this would be consistent with real GNP growth of about 1.3% for 1990."

The buyers surveyed reported copper, zinc, lead, steel, rhodium, caustic soda, sulfur, soda ash, and bearings up in price in July. Down in price were aluminum, magnesium, steel scrap, lumber, linerboard, ethylene, methanol, phenol, plastic resins, DRAMS, fuel oil, natural gas, propane and connectors.

NAPM procurement trends

(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend towards lower deliveries is similarly interpreted.



Inventories

Speed of delivery

Price

New orders

Calculating I/S ratios

To derive an inventory-to-sales (I/S) ratio, divide the dollar value of inventory by sales, remembering to use data from the same time period. That is, you can divide a particular month's ending inventory by that same month's total sales figure. You cannot, however, use inventory at one point in time and divide it by the year's total sales level. The ratio must relate similar time periods, so if you want to evaluate a year and not just a single month, take the average of the monthly inventory and sales levels, then divide.

In addition, while the manufacturing I/S ratio has fallen from 2 to 1.6 during the current expansion, the new figure does not represent the optimal level for each individual manufacturer. The ratio reflects the industry average, and is not even representative, necessarily, of the industry median. What the 1.6 loosely implies is that if manufacturing inventories remained fixed, the "sector" could meet sales for a little more than a month and a half.

In terms of the optimal ratio, I think that depends on a number of factors, including: product, distribution methods, supplier leadtimes, your inventory monitoring system, seasonal safety stock requirements, and the rate at which inventory gets turned over. Nevertheless, an I/S ratio in excess of 2 seems less than optimal. Moreover, cost-benefit analysis suggests that an I/S ratio closer to 1.5, for manufacturing operations in general, is best from the individual firm's standpoint.

Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Steel, bars, stainless, 303, cwt	179.00	179.00	179.00
Steel, bars, HR carbon, 1000 series, cwt	19.20	18.70	21.00
Steel, bars, HR carbon alloy, cwt	25.00	24.50	24.50
Steel, bars, cold-finished carbon, cwt	34.00	32.50	34.50
Steel, plates, carbon, cwt	23.25	23.25	25.20
Steel, plates, strip mill, cwt	23.60	23.60	23.60
Steel, plates, alloy, cwt	34.25	34.05	34.55
Steel, sheets, C.R., class 1, cwt	30.65	30.65	29.65
Steel, sheets, HR, cwt	23.00	23.00	22.25
Steel, sheets, stainless, 304, cwt	124.00	124.00	124.00
Steel, strip, HR carbon, cwt	22.10	22.10	22.10
Steel, strip, CR carbon, cwt	36.18	36.17	38.30
NONFERROUS METALS			
Aluminum, unalloyed ingot, lb.	0.73	0.72	0.82
Aluminum, alloyed ingot, 355, lb.	0.93	0.93	0.95
Aluminum, secondary ingot, 380, 30000 lb. lot	0.78	0.75	0.73
Antimony, lb.	1.25	0.81	0.95
Cadmium, N.Y., dealer, lb.	2.90	3.19	4.60
Copper, electrolytic wire bars, lb.	1.41	1.26	1.18
Copper, cathode, full plate, lb.	1.28	1.19	1.10
Lead, common, N.Y., lb.	0.50	0.48	0.42
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 50 fl. lots, N.Y., fl.	265.00	280.00	270.00
Molybdenum, oxide, canned, lb.	3.35	3.35	3.32
Nickel, cathode, dealer, lb.	4.60	3.93	5.85
Platinum, dealer, oz.	475.00	489.00	494.00
Silver, N.Y., troy oz.	4.84	4.92	5.20
Tin, N.Y., dealer, lb.	2.81	2.90	4.38
Zinc, high grade, lb.	0.82	0.87	0.82
Zinc, die casting alloy, No. 3, lb.	0.90	0.95	0.74
PAPER (unit=ton)			
Uncoated book #3 offset	940.00	940.00	1020.00
Watermarked bond	1090.00	1090.00	1095.00
Unbleached kraft paper, grocery bag, 30 lb.	630.00	660.00	680.00
Bleached kraft, grocery bag, 30 lb.	800.00	800.00	810.00
Kraft linerboard, 42 lb., domestic, East	370.00	370.00	380.00
Newsprint, 30 lb., East	565.00	535.00	573.00
TEXTILES			
Acrylic, open-end spun, 1/18, lb.	1.52	1.52	1.46
Carded cotton, ring-spun, 18/1, lb.	1.40	1.40	1.36
Carded cotton, open-end spun, 18/1, lb.	1.42	1.42	1.36
Combed cotton, ring-spun, 18/1, lb.	1.83	1.83	1.90
Nylon, textured, 70/20, lb.	2.70	2.68	2.45
Polyester, 50/50% carded cotton, 30/1, lb.	1.85	1.85	1.70
Polyester, ring-spun, 100%, 18/1, lb.	1.64	1.64	1.58
Rayon, high-wet modulus, lb	1.36	1.36	1.34
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tankcars, Gulf Coast, ton	77.00	77.00	123.00
Benzene, petroleum, tanks, Houston, gal.	1.30	1.30	1.50
Caustic soda, metric ton	350.00	340.00	320.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, USP, 37%, (12%-15% meth.),, tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, 96%, tanks, lb.	0.74	0.74	0.79
Methanol, syn., tanks, 4000 gals., f.o.b. Gulf Coast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, molten, tanks, lb.	0.33	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.52	0.52	0.49
Polypropylene, homopolymer grade (market price), lb.	0.50	0.50	0.46
Polystyrene, general purpose grade (market price), lb.	0.50	0.50	0.59
Polyvinyl cholride, pipe grade,, (market price), lb.	0.40	0.40	0.44
Soda ash, light 58%, 100 lb., paper bags	150.00	150.00	135.00
Styrene monomer, 99.6%, tanks, lb.	0.40	0.40	0.49
Sulfur, crude, ex-terminal, Tampa, FL, lt.	128.00	128.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.75	69.75	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.04	1.04	0.95
Xylene, Gulf Coast, spot, barge, gal.	1.03	1.03	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	341.56	341.56	326.95
Lumber 2x4 pine, mbf, cl	341.28	340.11	321.47
Plywood, plyform, 3/4", msf, cl	663.11	662.78	570.00
Plywood, 5/8", msf, cl	388.38	387.51	370.22
Cement, type 1, bulk, ton	63.47	62.72	63.88
Sand, concrete, ton, cl	7.43	6.91	7.17
Ready-mix concrete, 3000 psi/cu. yd.	49.59	48.95	48.81
Crushed stone, base course, ton, cl	6.30	6.30	5.84
Concrete blocks, sand/gravel, 8"x8"x16",, per hundred	84.64	84.28	87.17
Reinforcing bars, grade 60; per cwt.	22.04	22.09	21.32
Asphalt paving AC-20	108.38	108.01	108.53
Concrete sewer pipe, 24", prem. joint,, per ft., cl	18.14	18.14	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	20.20	17.00	20.40
Diesel (reseller rack, Chi.), gal.	0.56	0.49	0.51
Heating oil No. 2 (N.Y.), gal.	0.58	0.48	0.56
Heating oil No. 2 (Gulf spot), gal.	0.54	0.46	0.48
Fuel oil No. 6 (N.Y.) contract cargo	18.75	17.40	18.75
Gasoline (prem unlded N.Y.), gal.	0.85	0.80	0.78
Gasoline (reg unlded N.Y.), gal.	0.70	0.64	0.59
Kerosine (reseller rack, Chi.), gal.	0.65	0.56	0.60
SCRAP MATERIALS			
Copper, No. 1, brass mill scrap, carload	1.21	1.18	1.03
Copper, No. 1, refineries copper scrap, carload	1.13	1.10	0.98
Copper, No. 2, refineries copper scrap, carload	1.01	1.01	0.89
Copper, No. 1, brass ingot makers', carload	1.09	1.06	0.93
Copper, No. 2, brass ingot makers', carload	0.97	0.97	0.84
Brass, yellow solids, carloads	0.62	0.62	0.57
Aluminum, secondary smelters, old sheet & cast	0.47	0.49	0.43
Aluminum, secondary smelters, mixed clips	0.53	0.55	0.50
Zinc, old, smelters scrap	0.30	0.30	0.35
Zinc, die cast slab, smelters scrap	0.36	0.36	0.37
Steel, no.1, hvy., dlvd., Pitts., ton	118.00	102.00	99.00
Steel, no.1, hvy., dlvd., Chi., ton	116.00	107.00	108.00

Sources: Metals Week, American Metal Market, Engineering News-Record (20-city averages), America's Textiles International, Journal of Commerce, Chemical Marketing Reporter, Pulp and Paper Week.

* This page has been revised to better serve you.

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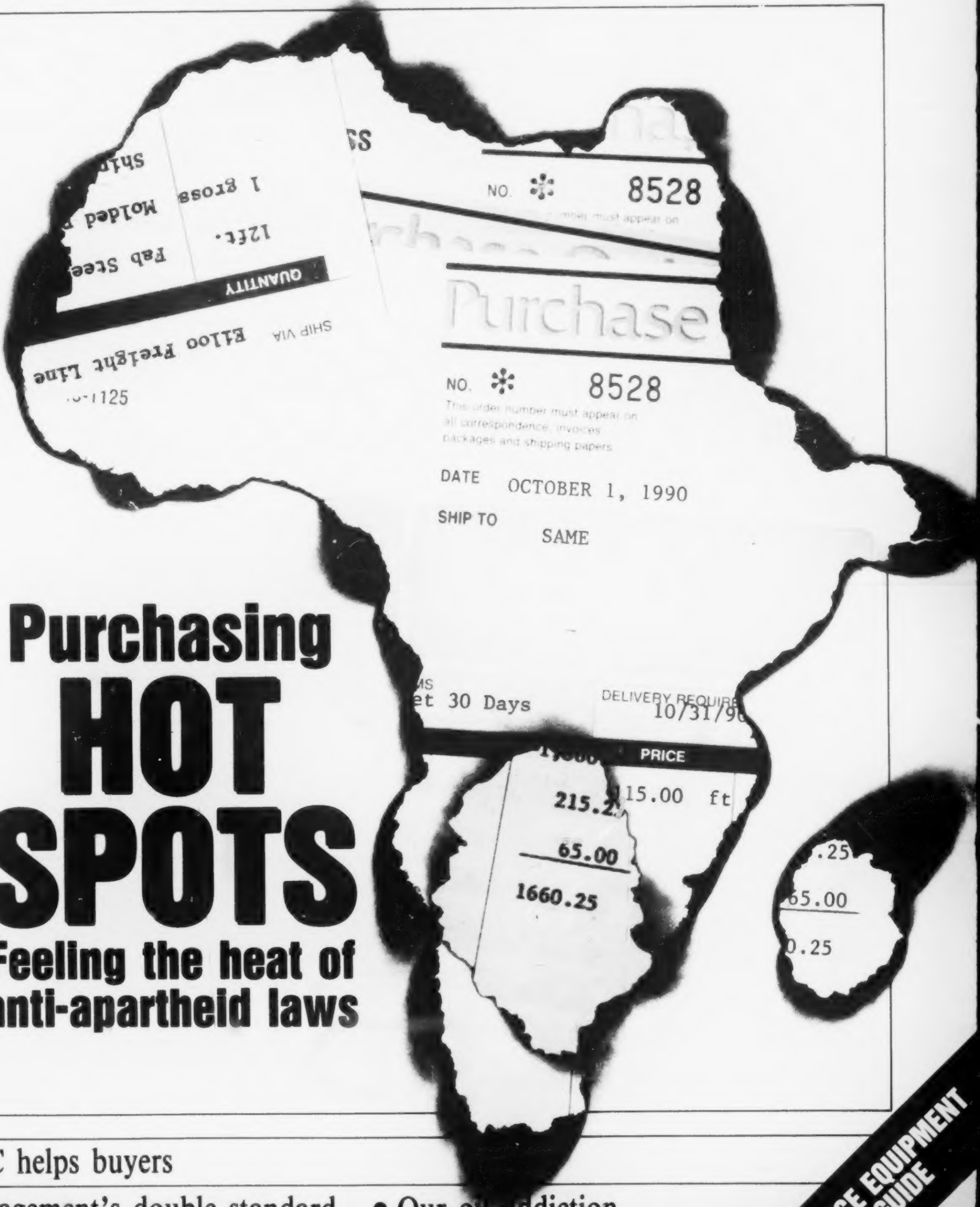
PurchasingWorld®

MANAGING THE BUSINESS OF BUYING

OCTOBER 1990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Purchasing HOT SPOTS

Feeling the heat of anti-apartheid laws

- UCC helps buyers
- Management's double standard
- Our oil addiction

OFFICE EQUIPMENT GUIDE

CONTENTS

October 1990, Vol. 34, No. 10

COVER STORY

33 Feeling the heat of anti-apartheid laws

What can buyers do in cities with laws or other restrictions on dealing with suppliers with ties to South Africa? *PurchasingWorld* explores a purchasing hot spot.

FEATURES

38 N.O.M.D.A. spotlights buys, tech advances

Our office editor, Caroline Reich, filed this report from Las Vegas on new products and hot topics at the annual National Office Machine Dealers Association meeting.

44 Office equipment guide

Our survey of **electronic typewriters** keyed in this year on market and product changes: are word processing systems offered? does a national accounts program exist? can equipment be leased? **Fax machines** are headed toward faster transmission speeds as well as the use of plain paper instead of thermal; portable faxes are making strides, too. **Copiers** are becoming more multifunctional, with higher-priced models offering not only color copies and high speeds, but job programming, editing and document finishing processes.

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Buyers for several U.S. cities have to deal with legislative restrictions. Page 33

New products and technologies were featured at this year's NOMDA show. Page 38

FEATURES

55 Adhesives stick to new legislation

How the industry is dealing with environmental regulations; some products buyers need to know.

64 Survey preaches what you practice

A recent *PW* survey on the purchasing function reveals what purchasing pros are doing and thinking about their jobs.

DEPARTMENTS

3 PW Pointers

4 Editorial

6 Inside purchasing
Supplier or vendor? JIT model; No quick cure

11 Negotiations
What makes a double standard

12 Transportation

15 PW Predicts
International effect on U.S. economy; construction aggregates; U.S. oil addiction; automation's growth

22 Business Datatrak
Economic uncertainty; metals scene; inflation question; regional perspective; spot prices

54 Products

62 Literature

67 Advertisers' index

65 Classified

68 Purchasing and the law
Buyer wins despite contract

PurchasingWorld

EDITORIAL

Changing profile

Research director Peter Young is putting the final touches on this year's version of our triennial survey of purchasing professionals.

I know that Peter is quite pleased with your response and extends his thanks to each of you.

Returns of the survey were more than 20%—an excellent response rate when you consider that the survey questionnaire was six pages long. For that reason alone, this expanded survey will serve as a real benchmark against which we will be able to identify trends in purchasing departments and in your job responsibilities.

The survey was comprehensive in scope. In addition to basic job responsibilities, it covered a number of other areas: working with other company functions and departments, source development, evaluation, selection, and management, certification programs, plant visits, and buying responsibility and intentions by specific product category.

Here's a sampling of the results:

Our purchasing readers are better educated today than ever before...20.1% have graduate degrees, 48.7% have undergraduate degrees, and another 8.8% have a 2-year degree, while 16.4% have attended college.

Their compensation level is more nearly beginning to mirror their experience, i.e., median income is almost $50,000, while 58.2% have between five and 20 years experience in purchasing.

PurchasingWorld readers continue to work closely with other functions and departments as part of informal or formal buying teams. For first time or new order buying, 78.4% of our readers work with design engineering; 75.8% work with production/manufacturing; and 73.7% work with quality control. On reorder purchases, 56.3% of our readers work with production, and 53.8% work with quality control.

For purchasing professionals, however, the basics are still supplier development and management. Almost all (99.2%) of our readers evaluate existing suppliers, develop new suppliers, recommend and select suppliers, and set their companies' purchasing policies and standards.

The skilled negotiators in any company, 97.9% of our readers put together contracts, 94.8% schedule delivery of products; 94.6% authorize purchases; 93.2% participate in value analysis activities, and 89.8% say they are directly involved in controlling product quality.

In several increasingly important areas, 83% of our readers say they determine whether to make or buy a product. And 83% specify mode and carrier for inbound shipments. Their influence reaches beyond their own manufacturing location, as 62.6% say that they manage buying for other manufacturing locations within their companies.

When you think about what goes into your purchasing day, you might want to consider how your job responsibility continues to command a more important role in deciding the overall success of your company. That's a message that we should constantly communicate to top management.

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PW PREDICTS

International interdiction, domestic decay

The Iraqi invasion of Kuwait has incited a period of international interdiction, the quickness of which may be unprecedented. With the United States spearheading the deterrence, global trade sanctions are now underway.

While all the economic ramifications of this situation will be rippling their way through our domestic system for quite some time, the probability of a near-term recession has grown. Moreover, revisions of past data suggest our fragile economy is even weaker than previously believed.

According to the latest revisions, real gross national product has grown less than 2% for five consecutive quarters now. This is a wish come true for Alan Greenspan, Chairman of the Federal Reserve, who has espoused the strategy of forcing economic growth below its potential in order to tame inflationary pressures. Unfortunately, this strategy, while theoretically excellent given no external shocks, could condemn the U.S. to a significant economic correction if Middle East developments escalate, or even worse, stagnate.

Reflecting this uncertainty about the security of oil supplies from the Persian Gulf, mid-August saw the spot price for West Texas intermediate crude oil surpass $30 a barrel. This quickly passed through to rising prices at the pumps, which brought an immediate public outcry. It should be noted, however, that while barrel prices jumped 70% in the first week of August, prices at the pump are up, on average, only 25%. If the Middle East turmoil isn't resolved quickly, gas prices are sure to go higher.

Despite Iraq and Kuwait accounting for less than 4% of world oil production, Middle East countries combined represent 25%. In fact, Saudi Arabia stands as the world's third largest producer, behind the Soviet Union and the U.S. The scary point: military strategists say that computer simulations of major conflict in this region almost always result in the elimination of nearly all oil producing facilities, sending the world economy into a severe tailspin.

Given that the U.S. imports roughly half of the 17 million barrels of petroleum it consumes per day, this is certainly a frightening situation. Real investment in petroleum and mining are feasible solutions, but they are long run. Moreover, it remains to be seen if near-term world production increases are capable of offsetting higher speculative oil prices.

With any quick solution seeming remote, the WEFA Group has now revised its baseline forecast, upgrading the probability of recession to 50%. This is their most negative outlook since the last recession in 1982.

WEFA is predicting negative real GNP growth of 1.5% this quarter, with a slight rebound to follow in the fourth quarter. Though recession, which is defined as two consecutive quarters of negative growth, is not in their forecast, 1% or less annual rate of growth for both 1990 and 1991 is. A return to trend growth of 2.5% isn't projected until mid-1992.

Prices are now at risk, despite the decay of domestic activity which has been designed to tame inflationary pressures. Oil hikes have a pervasive impact on the economy and are likely to cause significant upticks in the price indexes. While temporary boosts in the price of oil don't cause inflation per se (see DataTrak), the price indexes don't know that.

The Middle East crisis is the last thing the Fed wanted to see. Higher oil costs will boost prices and lower real growth, intensifying the current environment of "stagflation," the combination of poor growth and inflation.

Fortunately, it is within the realm of possibility that the economy can absorb even higher prices and slower growth, which would move the economy from below-trend growth to far-below-trend growth, but no recession. Unfortunately, the longer the Iraq situation persists, the greater the danger, for there are no instances in all of history where a nation has benefited economically from a prolonged military encounter while it was in progress.

By John Sheridan

Our oil addiction

Overview: Following Saddam Hussein's August 2 blitzkrieg, the only visible alternative to war appeared to be a prolonged presence by the U.S. in the Persian Gulf region, accompanied by practiced international economic sanctions. Amid all this uncertainty, however, one thing is certain: the U.S. is very sensitive to anyone messing with world oil supplies.

Demand: In the first six months of 1990, U.S. petroleum imports, as a percent of domestic deliveries, reached 50%. This is the highest six-month level in history. The American Petroleum Institute (API) reported that in July, imports accounted for 51.3% of all oil used in this country. While first quarter data showed a slight drop in petroleum products supplied to the U.S., the level remains in excess of 17 million barrels per day (mb/d).

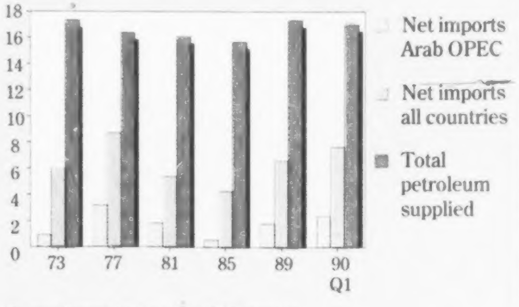
Supply: To meet the oil-guzzling needs of the U.S. and other industrialized nations, world production exceeds 58 million barrels per day. In 1988, the United States ranked second in production (8 mb/d) to the Soviet Union (11 mb/d). Regionally speaking, the Middle East ranks first (15 mb/d), followed by North America (12 mb/d) and Eastern Europe (12 mb/d).

As a result of the 1973 Arab oil embargo, Congress authorized the creation of the Strategic Petroleum Reserve (SPR). As of August 3, 1990, 587 million barrels of crude oil were in the SPR, which is estimated to represent roughly a 73-day supply based on current import levels.

Outlook: Supply uncertainties force prices higher, which creates difficulties for consumers and businesses, who usually respond by buying less. In addition, higher prices lead to further investment from producers. In the long run, the forces applying downward pressure on oil prices will win. In the meantime, the latest headline from Iraq will determine the price of oil.

U.S. dependence on petroleum

Net imports, million barrels per day



Source: Energy Information Administration

Iraq propels chemical prices

Saddam Hussein's attack is sending shock waves up and down the chemical stream. Fertilizer buyers are bracing for tighter supplies and higher prices. Both Iraq and Kuwait are major exporters of ammonia and urea; combined, they account for nearly 2 million metric tons/year of ammonia and roughly 2.3 million metric tons/year of urea. Sulfur buyers face even greater risk, but, so far, prices have held steady.

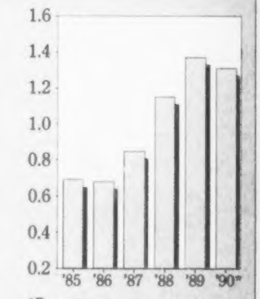
Other markets are already witnessing significant price pressures. Styrene is nearing 60¢/lb, up 15¢ over the pre-invasion price. A tanker of benzene, which before August 2 sold for $1.30/gal, is now selling for $1.90/gal. As the Middle East turmoil pushes chemical feedstock prices higher, increases for commodity polymers, especially polyethylene, polyvinyl chloride and polystyrene, are likely to follow.

Copper inventory up, tags falling

London Metal Exchange inventories for copper have reached their highest levels since May 1989, placing downward pressure on prices. Prices have already retreated to $1.30/lb, from $1.35/lb in early August. News of labor troubles in Peru and Zambia, along with production troubles in the Philippines, will inhibit the recent price erosion. Speculation is that the market has peaked and that economic factors, including rising inventories and waning demand, will offset any labor disruptions and keep prices moving down.

Copper

$/lb



*Recent

Steel dampens manganese demand

Steel producers account for 90% of U.S. manganese demand. With steel production off roughly 4-5% from 1989 and unit consumption of manganese per ton of steel dropping due to technological advances, 1990 consumption of manganese will be down.

Despite weakened demand, strong ore prices are allowing ferromanganese prices to hold up. Ferromanganese in late August cost $650/ton, up from a range of $540-$620/ton last year. Silicomanganese is another story, however, with prices down roughly 27¢/lb from a year-ago, to 43¢/lb.

Construction aggregates dip

Overview: Demand in 1988 for construction aggregates, which include crushed stone, sand, gravel, and iron and steel slag, reached an all-time high of 2.2 billion tons. In 1989, however, spending for residential, commercial and public construction slowed. Tough times in the construction industry have continued in 1990, but regional pockets of strong performance remain.

Demand: The East North Central region represents the largest consumption of construction aggregates. In terms of dollar value, the South Atlantic region, with sales of almost $1.8 billion, outdistances the East North Central region, where sales in 1989 were $1.5 billion. The past few years have witnessed record sales in a number of states: Ohio, Michigan, Indiana, Illinois, California, Virginia, Tennessee, Washington, New York and Louisiana.

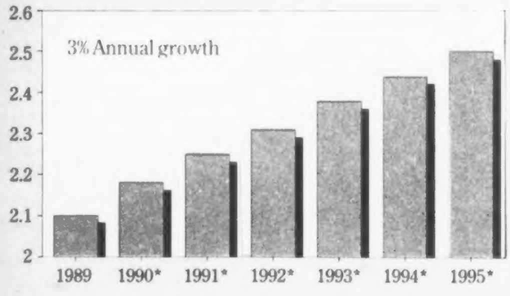
In nearly every region, the leading end-market for construction aggregates is concrete. Concrete producers consume roughly 222 million tons of construction sand and gravel, 670 million tons of crushed stone, and 2 million tons of slag.

Supply: Across all aggregates, California, Texas and Pennsylvania are the largest producers. In crushed stone, Florida, Texas, Virginia, Illinois and Pennsylvania represent over 30% of production. In slag, which is a by-product of steel and iron production, over 65% of production is accounted for by Ohio, Michigan and Pennsylvania. The leading states in the production of sand and gravel are California, Michigan, Texas and Ohio. Imports are not a threat, accounting for less than 1% of aggregate supply.

Outlook: Leading Edge Reports, Cleveland, projects that the U.S. demand for aggregates will grow nearly 3% annually, reaching 2.5 billion tons with a market value of $12.5 billion in 1995. A rough estimate of average price shows a 3-3.5% increase per year through 1995.

U.S. construction aggregates

Total demand, billion dollars



Source: Leading Edge Reports

*Forecast

Paints, coatings rebounding in '91

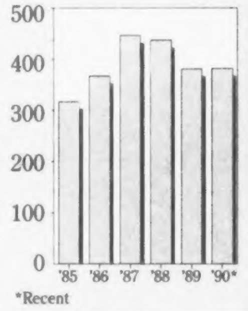
Over the last three years, the value of paints and coatings sales advanced more than 6% annually. Leading Edge Reports, Cleveland, projects the annual rate of growth for the 1989-1992 period to exceed 7%. Though the market is currently struggling, with 1990 growth anticipated to be less than 2%, the future appears quite promising. Between 1992-1995, architectural coatings, which volumewise account for 44% of the paints and coatings market, are expected to grow more than 7% annually, while product and special purpose coatings approach yearly growth of 9% and 8%.

Platinum metals firming slightly

Market watchers were expecting platinum to firm in the wake of the Middle East turmoil. But, like gold, platinum has firmed only slightly, into the $495-$509/troy oz range. Platinum's movement to date is considered weak by many industry observers. Meanwhile, palladium has firmed roughly $1, with the price range now resting at $116-$120/oz. Rhodium, conversely, has jumped $500/oz, to $5,500/oz. Once the Iraq troubles subside, precious metals will adjust relatively quickly to their pre-invasion prices and trends.

Gold

$/troy oz.



*Recent

Crisis doesn't propel gold

Historically, international developments like those in Iraq stimulated a $40-$50 upside spurt in gold, because the precious metal is believed to be a safe haven for money seeking refuge from political and economic tension. This time, however, while gold activity is steady, no rapid price advance has materialized.

On August 3, gold stood at $384.70/oz. By August 9, the price had firmed to only $385.80/oz. In late August, gold's price topped $400/oz, but by September 2, the closing price had dropped back to $387.75/ oz. One merchant suggested that it is inflationary times which stimulate quickly rising gold prices, so unless oil prices jump significantly more than they have, or war breaks out, gold won't show any rapid rise. While the Persian Gulf crisis hasn't stimulated an up-front jump in the price of most precious metals, a gradual firming could be in line if the Iraqi situation stagnates.

Automate for growth

Overview: Industrial automation software experienced over 20% annual growth during the eighties, with no easing in performance expected through the first half of the nineties. Large organizations are investing in computer-integrated manufacturing (CIM) environments, while smaller firms are employing more application software. The bottom line: firms of all sizes are seeking a competitive advantage through industrial automation. Moreover, many managers see automation, which includes hardware, software and services as critical to improved future worker productivity.

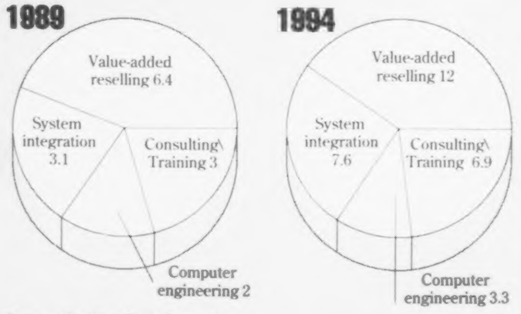
Demand: While all three sectors of the automation market are expected to experience strong growth, software demand should be greatest. Networking and MRP II (manufacturing resource planning) are now allowing individual tasks throughout the entire organization to be tied together, helping to raise efficiency. Linking distinct functions such as engineering design, purchasing, production, inventory control and strategic planning together allows the theory of CIM to become reality.

Supply: Despite the existence of more than 5000 U.S.-based firms engaging in the production and support of computer software, the majority of revenues on this side of the market go to a handful of large, vertically integrated hardware-based firms. IBM alone accounts for a third of all software revenues. Revenue concentration from the top four, which also includes Digital Equipment, Hewlett-Packard and Unisys, equates to nearly half the software market.

Outlook: Durable goods industries will comprise, in the future, the stronger aggregate markets for industrial automation software and services. As of right now, however, the nondurable goods industries boast the most sophisticated factory automation environments.

Industrial automation

Services market, billion dollars



Source: The Freedonia Group, Inc.

Outstanding year for cotton

According to initial USDA acreage estimates, the cotton crop potential for the 1990-1991 period is 16 million bales, which is the largest since 1952-1953. Behind the large planting is upward-trending cotton demand from consumers.

Through the first quarter of 1990, cotton accounted for 50% of all textile purchases, exclusive of carpeting, outselling all man-made fibers combined. The most popular retail fiber has increased its year-ago market share by 3%. Currently, cotton represents 55% of the sock market, 45% of the fleece market and 32% of the sweater market. In the years to come, cotton is expected to represent even more of those markets.

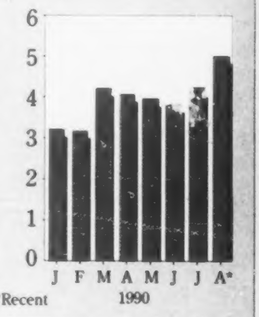
Spot nickel prices remain volatile

Oil prices represent a significant part of nickel producers' operational costs. As a result, spot nickel prices on the London Metal Exchange have remained above $5/lb for the majority of time since mid-August, with large price swings also being witnessed. Mid-August saw the establishment of the year's highest price, $5.16/lb, which is 43¢ higher than the price of nickel in late July.

Accompanying oil concerns are supply disruptions. Supply from the Soviet Union has fallen sharply and the restarting of the strike-plagued New Caledonia Mine is progressing slowly. With healthy demand continuing from stainless steelmakers, the current oil uncertainties will keep prices firm, and volatility up.

Nickel

($/lb)



Ethylene prices shocked higher

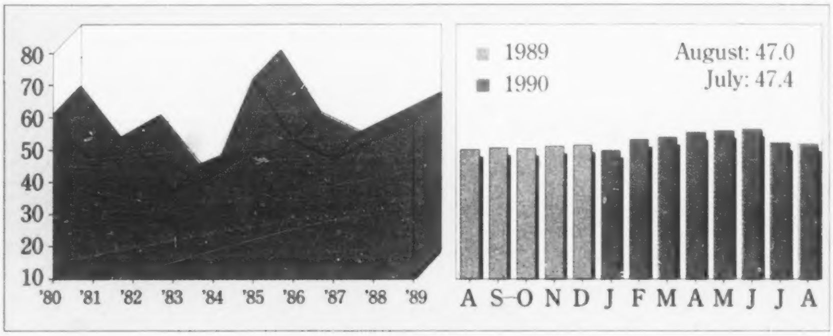
The Iraqi invasion put an end to falling ethylene prices. After falling 2¢ in both May and June, August saw prices rebound 3¢ to 25¢/lb. Another price hike is likely, since producers are facing feedstock costs which are already 4¢/lb higher then they were in July. Not helping buyers are a number of cracker outages in the past few weeks and low inventories. The good news is that scheduled production expansions suggest a persistent downward trend for prices once the Persian Gulf troubles subside.

BUSINESS DATATRAK

By John Sheridan, chief economic editor

N. A. P. M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



KEY ECONOMIC TRENDS

Uncertainty is the threat

Uncertainty is, economically speaking, the number one threat to domestic health. Not that oil costs, inflation, rising unemployment, declining corporate profits (see chart), restrictive monetary policy, fiscal spending troubles and sagging disposable income aren't in and of themselves serious dilemmas. However, the combination of these variables is intensifying the level of uncertainty, whose pervasiveness is very dangerous.

Uncertainty leads consumer and business decision makers to curtail purchasing outlays. People work hard to derive unbiased opinions of the future, but in the rapidly changing circumstances of today, people are hesitant to allocate resources and invest.

Many engines supplied the thrust behind the current expansion. Unfortunately, nearly all engines of growth have now run out of fuel. During the past two years, investment in producers' durable equipment, exports and consumer spending have provided the major propulsion, but their future stimulus, while still continuing to carry the economy, is likely to be less forceful.

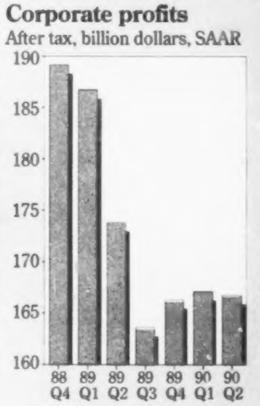
The probability that the forces for growth are powerful enough to overcome the negative recessionary pressures currently being applied and sustain expansion are now, at best, slightly better than 50-50.

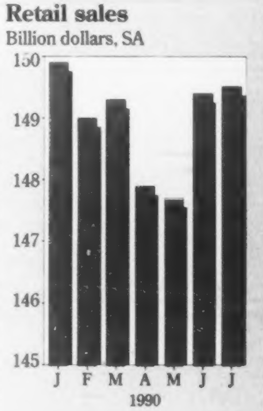
Final demand from consumers disturbingly bears this out. In the second quarter, consumer outlays rose a mere 0.3% at an annual rate, with purchases of durable goods off 10% and retail sales struggling (see chart). With uncertainty rising, spending on furniture, autos, homes and appliances is easily put off.

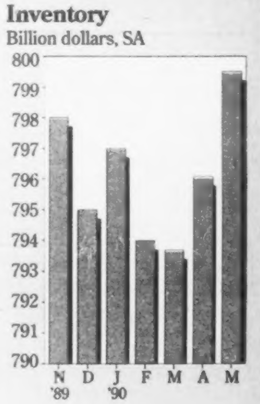
The advance report on the second quarter also showed a weakening in capital spending, but the Federal Reserve maintains no credit crunch exists, believing there is a continued willingness by banks of all sizes to make loans. However, the availability of funds is not indicative of the requirements for credit, nor the desire by businesses to invest. Moreover, the primary determinant of investment is return and in uncertain times, risk goes up. Without a reduction in the current atmosphere of uncertainty, the investment engine of growth might become too weak to help keep the soft-landing airborne.

The problem is, this is a critical time for invest-

Leading Indicators







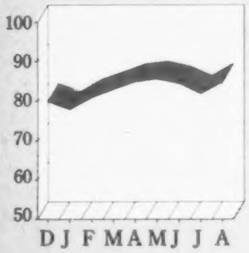
Source: Bureau of Census, Bureau of Economic Analysis ment. Capital spending is essential if productivity is to improve. Without productivity gains to offset advancing labor costs, rising unemployment will persist through year end.

Inventories are a mounting concern again (see chart). Following the first quarter drawdown, inventories surged last quarter. While a rebuilding of inventory was expected, it was anticipated that auto builds would be responsible for much of the gain. Surprisingly, cars accounted for less than half of the buildup. Weaker-than-expected demand seems to be the primary reason for a broad-based inventory accumulation.

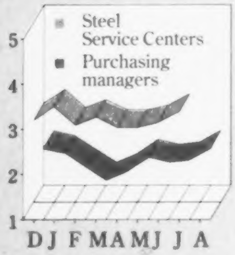
It's likely that buyers will start to pare stocks, hopeful of keeping inventories in line. Buyers did a good job earlier this year and unless new orders fall rapidly, they should be able to adapt to these less-than-certain times.

Steel

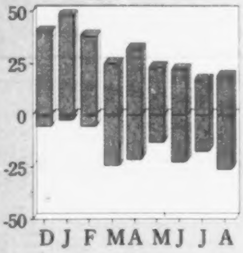
Operating rates



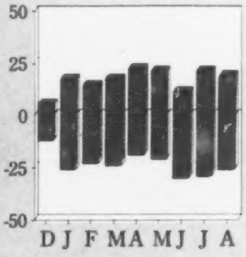
Inventories
(months supply on hand)



Demand (Steel Service Centers)
(Percent of respondents)



Demand (NAPM)
(Percent of respondents)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

METALS SCENE

Steel

The July average daily shipping rate (ADSR) plummeted for the nation's steel service centers. Year-to-date shipping levels are now off 0.9% from 1989's pace, with performance during the remainder of the year becoming increasingly clouded.

July's 7.8% drop in the ADSR was broad based, as six of seven product categories experienced declines. Carbon flat was off 10%, while plate moved 9.3% lower. Somewhat offsetting the downward pull were carbon structurals, which climbed 2.8%.

Comparing July 1990 to July 1989, shipments are up 1.4%, due to a 16% jump in structurals, implying that the July plunge may be largely due to the traditional seasonal slow-down and not indicative of further slowing by the general economy.

In fact, Steel Service Center Institute (SSCI) President Andrew G. Sharkey commented that member optimism is higher now than it was last year at this time. Currently, 85% of SSCI respondents expect incoming orders to either advance or hold steady during the next three months. This is up over 30% from last year.

Sparking concern is the rising inventory-to-shipments (I/S) ratio for steel service centers. While inventory levels remained stable in July, sales dropped off. The June I/S ratio, which stood at 3.15, rose to 3.40 in July, implying that service centers now possess on-hand supplies of nearly three-and-a-half months. The good news is that the 1989 July ratio came in at 4.2. However, any persistence in the current upward trend will signal trouble.

Import prices

(Compared to domestic)

STEEL BUYERS
ABOVE 29%
SAME 42%
SLIGHTLY BELOW 29%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (CARBON)
ABOVE 0%
SAME 77%
5-10% BELOW 23%
11-20% BELOW 0%
OVER 20% BELOW 0%

Aluminum

Aluminum prices turned up in the second quarter following six consecutive months of decline. In 1989, tags fell nearly 25% to 74¢/lb, with continued easing witnessed during the first two months of this year. In March, prices began to turn up from the February low of 66¢/lb, reaching 71¢/lb by month end. In late August, the aluminum market continued to tighten, with U.S. prices piercing the 80¢/lb barrier. Analysts noted the extremely strong showing of ingot exports as fueling the continued price rise.

Forthcoming oversupply expectations were primarily responsible for the early-year price drop. By March, however, the reality was that no excess supply was surfacing and, as a result, the bearish perceptions quickly faded, allowing prices to gravitate toward the current level.

Despite the fact that business activity is slowing worldwide, the WEFA Group predicts world consumption to advance 1-2% this year, with a 3-4% rise in 1991. With respect to price, the WEFA Group is looking for a general firming, from an average of 71¢/lb this year on the London Metal Exchange, to 80¢/lb in 1991.

REGIONAL PERSPECTIVE

Fed survey reports softening

Profit margins are likely to be squeezed further if the latest Federal Reserve survey of banking and business contacts is accurate. It's true that the majority of respondents believe growth continues. However, many of the Fed's "Beigebook" participants also believe that growth's pace has declined, with expectations regarding the future more subdued than in the previous survey. In general, wage pressures are said to be rising 3-5%, but a tightening job market is beginning to constrain these demands. Comments on prices are mixed, with many noting that costs are continuing to rise and price hikes are becoming increasingly difficult to pass along.

Manufacturing: Manufacturers commented that activity has flattened, with continued differences across regions and industries. Exports are said to be exhibiting notable strength, rebounding from their second quarter dip. Steel producers say that orders continue to exceed expectations, but third-quarter cuts in auto production threaten steel demand. Excluding commercial aircraft and steel, backlogs and leadtimes are being worked down, with the conscientious effort of buyers given as the main reason.

Production activity appears to be slowing, with nearly all participants reporting that labor utilization, in general, is either flat or weakening. According to respondents in the St. Louis, Minneapolis and San Francisco districts, the weakness was especially pronounced in defense-related activities, while Dallas, Richmond and Atlanta note significant weakness in textiles and furniture production.

Many manufacturers foresee tough times persisting well into 1991, with poor sales the almost unanimous problem. Most of the business people surveyed, however, are cautiously optimistic that exports, new products and price increases will support their firms for the next 12 months. Interestingly, the majority of respondents express more confidence in the performance of their own firm than they do in the overall economy.

Generating optimism are reevaluation activities that the current economic strain is already beginning to incite. Moreover, these activities will, down the road, benefit both individual firms and society overall. When times are tough, managers are looking for alternatives. Any profit squeeze brings about an extensive top-to-bottom review of operations, in the quest for cost reduction. Often, this process also includes a reevaluation of personnel and some long-range human resource planning. Such activities are good because they enhance the long-run competitive performance and profit potential of the firm, while simultaneously helping the economy reallocate resources to their most valued uses.

Consumer spending: Retail sales were described as generally weak, with pockets of strength reported in the following districts: Cleveland, Minneapolis and Dallas. Retailers in New York and St. Louis were the most pessimistic, citing layoffs and defense cuts as eroding consumer's confidence and willingness to spend. Sales of home furnishings, new cars and appliances are described as flat or below year-ago levels.

Many retailers commented that they are becoming less optimistic about the sales outlook for the rest of the year. Any significant drop off in sales could signal trouble because higher-than-desired retail inventories were reported by five of the twelve districts.

Construction and Real Estate: The levels of residential real estate construction and sales are extremely weak, with nearly all respondents placing current levels below those of a year-ago. High inventories of new and existing homes appear to be causing some erosion in housing prices. Remarkably, Cleveland reported its housing market to be mixed, with prices up 6-8% over last year. Large inventories of space were seen as the reason why even the few pockets of strength for nonresidential construction were beginning to stagnate. Public infrastructure appears to be the last remaining source of stability.

Finance: Commercial loan activity is slowing with indications that it, too, has dropped below year-ago levels. Lending to consumers isn't faring much better. Obtaining new credit for real estate and construction projects is said to be more difficult as borrower scrutiny has increased. Businesses in the Atlanta and Philadelphia districts note that problems with collecting and receivables are also beginning to mount.

Agriculture: Weather conditions are threatening some crops, but the outlook appears good for agriculture production. Wheat production in Kansas is the highest on record, looking to double last year's level. However, the St. Louis district reports that wheat yields are 12-26% lower on account of disease. The southeast has yet to escape hot and dry weather conditions, with Atlanta reporting that soybean, corn and forage production could be off by as much as 25% this year. Dallas respondents sounded similar concerns, noting that the heat was adversely affecting cotton, corn and grains, with prices now resting 6% higher than a year ago. Meat prices are also said to be moving higher.

CURRENT PRICES

The inflation equation

At the core of the inflation equation, at least in one analysis, is the Philip's Curve. The Philip's curve shows a trade-off, at least in the short run, between unemployment and inflation. Here's why: excess demand triggers rising inflation, while excess capacity stimulates an easing of inflation.

Reflecting the magnitude of excess demand or excess capacity is the gross national product (GNP) gap, which is determined by the relative positions of actual and potential GNP. When actual is above potential GNP, excess demand exists. However, actual GNP has been below potential for nearly two years now, with no change in direction expected until late 1991 or early 1992, suggesting a sustained easing in inflation.

Currently aggravating the price picture are inflation shocks due to imports and inflation expectations. The important thing to remember about foreign price shocks is that they are temporary, and that a large change in the price of one commodity relative to the general level of prices is not inflation. Once the oil shock has worked its way through the system, the general price level will return to its previous path: determined by the excess demand/excess capacity situation.

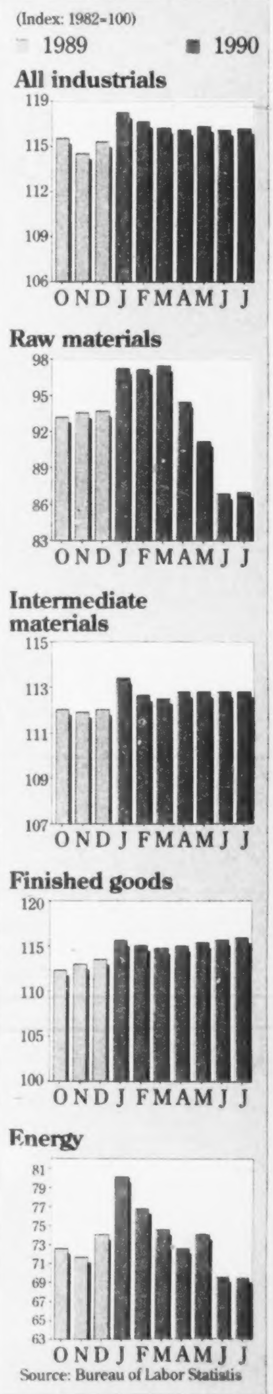
Finally, inflation expectations keep wages and other costs of production up, thereby inhibiting the speed at which inflation retreats. However, the underlying fundamentals are clear: inflation is waning. Therfore, with the economy struggling the way it is, evidence strongly suggests that the Federal Reserve should loosen monetary policy and lower interest rates.

This month's breakdown

Index 1982=100

	Latest level	month ago	year ago
Bearings	130.9	-0.3	5.3
Bolts, nuts, etc.	116.3	-0.1	3.9
Chemicals, inorganic	112.7	1.3	3.9
Chemicals, organic	109.4	-0.8	-5.1
Concrete products	113.3	0.0	1.7
Corrugated containers	108.4	-0.6	-3.6
Cutting tools, small	113.1	0.1	2.2
Electrical lamps (bulbs)	130.5	0.5	4.7
Electronic components	118.7	0.3	-0.7
Fans and blowers	123.5	0.0	2.2
Foundry and forge products	117.2	0.3	2.0
Fuel oil (residual)	41.3	-4.2	-16.4
Furniture, commercial	133.5	-0.1	3.2
Gasoline	70.0	-3.0	-1.3
Glass, flat	107.4	-0.5	-1.9
Glass containers	120.8	-0.2	4.2
Gypsum products	105.3	-0.8	-4.1
Hand tools	135.0	0.4	5.4
Hand tools, power driven	121.6	0.2	4.1
Industrial furnaces	127.7	0.0	2.1
Integrating and measuring instruments	127.2	0.2	5.6
Internal combustion engines	119.6	0.2	3.6
Lubricating oil	113.7	-1.2	2.3
Lumber millwork	129.9	-0.5	1.6
Material handling equipment	115.4	0.3	2.8
Metal containers	114.1	-0.2	1.4
Metal mill shapes	129.3	0.5	-4.9
Metal tanks	110.5	0.4	-0.8
Metalworking machines	122.9	0.1	3.7
Motors and generators	133.7	0.0	3.6
Motor trucks	127.8	0.9	2.2
Nonferrous metals	132.7	0.5	-2.6
Office and store equipment	108.6	-1.4	-1.1
Paperboard	134.9	-0.4	-3.3
Paper boxes and shipping containers	129.4	-0.2	-0.8
Paper office supplies	120.6	0.1	-1.3
Paint	124.7	0.2	3.9
Plastic resins	122.1	-1.5	-9.8
Precision measuring tools	128.8	0.0	2.8
Pumps and compressors	119.5	0.3	3.6
Refactories	123.0	0.2	2.7
Rubber belts and belting	118.9	-0.3	-0.8
Scales and balances	109.1	0.0	2.2
Switch gear	124.5	0.6	4.5
Textiles, synthetic fibers	106.3	-0.2	-0.2
Textiles, gray fabrics	116.5	-0.9	-0.9
Tires and tubes	97.0	0.0	-0.2
Transformers and power regulations	119.8	0.0	1.4
Welding equipment	127.4	-0.2	4.1
Wire and cable	140.5	-0.3	-0.1

Industrial prices



Source: Bureau of Labor Statistis

PROCUREMENT

NAPM's PMI deserves watching

The Purchasing Managers' Index (PMI), which is released by the NAPM in its monthly Report on Business, is perhaps the best near-term barometer available on economic health. Not only is it released before any official data, history is proving the composite index quite accurate, and therefore, very valuable.

While it has long been acknowledged as a good indicator of manufacturing performance, the PMI's recent track record in predicting gross national product (GNP) is also very good. Since 1986, the PMI has been within plus or minus 0.3% of predicting the actual change in real GNP in all but one year, 1987, when the index missed by 0.8%.

In today's uncertain times, the PMI offers comforting news. August's reading of 47 corresponds to real GNP growth of 1.3% for 1990. The index, however, can change rapidly, as July's drop indicates. When does the PMI become a red flag for the economy? Robert J. Bretz, chairman of the NAPM Business Survey Committee, says that "The PMI would have to fall below 44 percent before indicating a decline in real GNP."

Interestingly, comments on inventories are mixed. Many buyers are clearly worried about being caught with excess inventory and are attempting lower existing stock until a revival in sales appears.

On the other hand, a few buyers are attempting to quickly build inventory in order to create a buffer against temporary price hikes due to the Middle East problem. At least a few buyers are seeking to use inventories to delay or temper price hikes to customers, in hopes that things will soon return to normal. Excess inventories are only a problem if sales fall. If future prices rise and sales hold steady, excess inventories now mean higher profits later.

Manufacturing plans

A.T. Kearney's recent survey of 258 Fortune 1000 manufacturing firms finds 80% currently engaged in foreign sourcing. This is a drastic jump from just five years ago, when only half of those same 258 companies sourced globally. The study discovered that survey participants plan a number of activities to enhance their competitive position, especially in the face of the potentially challenging European consolidation beginning in 1992.

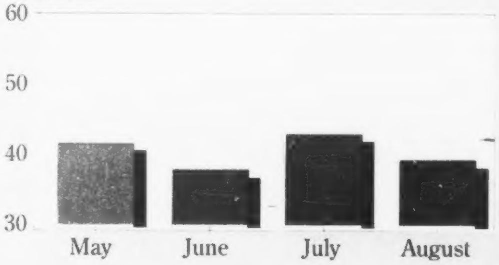
Included in the list of future activities: spending increases of up to 70% on foreign sourcing by 1995

NAPM procurement trends

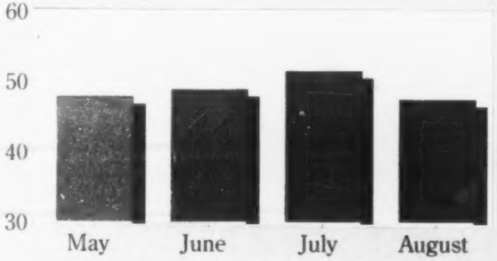
(Seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend towards lower deliveries is similarly interpreted.

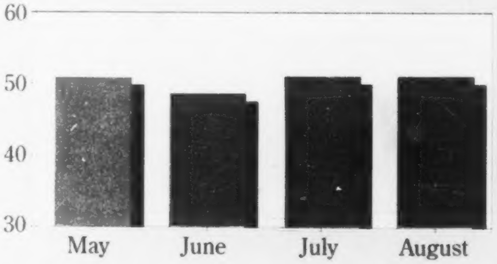
Inventories



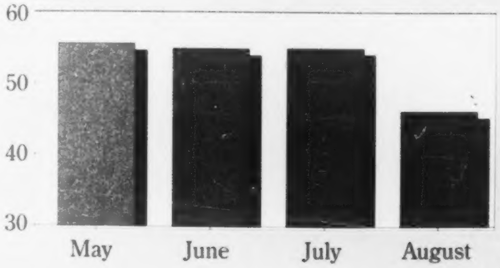
Speed of delivery



Price



New orders



(for those participants already involved in sourcing globally); domestic facility expansion by 42% of the respondents during the next two years, with 14% also expanding offshore operations; and continuing investment in technology. A majority of firms reported seeing reductions in the cost of production due to automation, with 62% of those surveyed sharing the belief that the future of domestic manufacturing depends on how well technology gets applied operationally.

For example, most of the respondent companies plan to move forward with computer integrated manufacturing (CIM) systems, because of their substantial potential to further improve quality and customer service.

But James F. Swallow, a vice president with the Chicago-based consulting firm, remains concerned that investment decision-makers are preoccupied with cost and not paying enough attention to market share. "our results," he says, "indicate a continued preoccupation with cost factors, giving cost a primary reason for expansion, rather than competitive positioning—a far more appropriate objective when considering the impact of Europe 1992."

A major worry of those answering the survey is human resources. Many manufacturing leaders are worried that their companies are lacking the number of skilled executives needed to compete successfully on a global basis.

LATEST SPOT MARKET PRICES

	Latest price	Previous month	Year ago
FERROUS METALS			
Steel, bars, stainless, 303, cwt	188.00	179.00	179.00
Steel, bars, HR carbon, 1000 series, cwt	19.20	18.70	21.00
Steel, bars, HR carbon alloy, cwt	25.00	24.50	24.50
Steel, bars, cold-finished carbon, cwt	34.00	32.50	34.50
Steel, plates, carbon, cwt	23.25	23.25	25.20
Steel, plates, strip mill, cwt	23.60	23.60	23.60
Steel, plates, alloy, cwt	34.55	34.05	34.55
Steel, sheets, C.R., class 1, cwt	30.65	30.65	29.65
Steel, sheets, HR, cwt	23.00	23.00	22.25
Steel, sheets, stainless, 304, cwt	124.00	124.00	124.00
Steel, strip, HR carbon, cwt	22.10	22.10	22.10
Steel, strip, CR carbon, cwt	36.18	36.17	38.30
NONFERROUS METALS			
Aluminum, unalloyed ingot, lb.	0.83	0.73	0.82
Aluminum, alloyed ingot, 355, lb.	0.93	0.93	0.95
Aluminum, secondary ingot, 380, 30000 lb. lot	0.80	0.78	0.73
Antimony, lb., merchant	0.85	0.81	0.95
Cadmium, N.Y., dealer, lb.	2.90	2.90	4.60
Copper, electrolytic wire bars, lb.	1.42	1 41	1.19
Copper, cathode, full plate, lb.	1.32	1.28	1.10
Gold, N.Y., troy oz.	387.00	367.00	402.90
Lead, common, N.Y., lb.	0.50	0.50	0.42
Magnesium, pig ingot, (99.8%), lb.	1.63	1.63	1.63
Mercury, 50 fl. lots, N.Y., fl.	260.00	265.00	270.00
Molybdenum, oxide, canned, lb.	3.35	3.35	3.32
Nickel, cathode, dealer, lb.	5.20	4.60	5.85
Platinum, dealer, oz.	498.00	475.00	494.00
Silver, N.Y., troy oz.	4.80	4.84	5.20
Tin, N.Y., dealer, lb.	2.78	2.81	4.38
Zinc, high grade, lb.	0.81	0.82	0.82
Zinc, die casting alloy, No. 3, lb.	0.89	0.90	0.74
PAPER (unit=ton)			
Uncoated book #3 offset	940.00	940.00	1020.00
Watermarked bond	1090.00	1090.00	1095.00
Unbleached kraft paper, grocery bag, 30 lb.	630.00	660.00	680.00
Bleached kraft, grocery bag, 30 lb.	800.00	800.00	810.00
Kraft linerboard, 42 lb., domestic, East	370.00	370.00	380.00
Newsprint, 30 lb., East	565.00	535.00	573.00
TEXTILES			
Acrylic, open-end spun, 1/18, lb.	1.52	1.52	1.46
Carded cotton, ring-spun, 18/1, lb.	1.61	1.61	1.54
Carded cotton, open-end spun, 18/1, lb.	1.46	1.42	1.36
Combed cotton, ring-spun, 18/1, lb.	1.83	1.83	1.90
Nylon, textured, 70/20, lb.	2.70	2.68	2.45
Polyester, 50/50% carded cotton, 30/1, lb.	1.83	1.85	1.70
Polyester, ring-spun, 100%, 18/1, lb.	1.64	1.64	1.58
Rayon, high-wet modulus, lb.	1.36	1.36	1.34
CHEMICALS			
Acrylonitrile, tanks, lb.	0.35	0.35	0.40
Ammonia, anhydrous, tar[illegible]rs, Gulf Coast, ton	0.90	77.00	123.00
Benzene, gal.	1.30	1.30	1.50
Caustic soda, metric ton	355.00	350.00	320.00
Cresylic acid (over 25%), tanks, lb.	0.55	0.55	0.55
Formaldehyde, 37%, (12%-15% meth.), tanks, lb.	0.13	0.13	0.11
Glycerine, synthetic, 96%, tanks, lb.	0.74	0.74	0.79
Methanol, syn., tanks, 4000 gals., f.o.b. Gulf Coast plants	0.40	0.40	0.52
Naphthalene, crude, tanks, lb.	0.17	0.17	0.16
Phthalic anhydride, molten, tanks, lb.	0.39	0.33	0.41
Polyethylene resin, low density, liner film grade (market place), lb.	0.52	0.52	0.49
Polypropylene, homopolymer grade (market price), lb.	0.40	0.37	0.46
Polystyrene, general purpose grade (market price), lb.	0.50	0.50	0.59
Polyvinyl cholride, pipe grade,, (market price), lb.	0.36	0.40	0.44
Soda ash, light 58%, 100 lb., paper bags	150.00	150.00	135.00
Styrene monomer, 99.6%, tanks, lb.	0.41	0.40	0.49
Sulfur, crude, Tampa, FL, long-ton	128.00	128.00	142.00
Sulfuric acid, 66%, commercial, tanks, ton	69.89	69.75	66.86
Titanium dioxide, anatase, reg., carlots lb.	1.02	1.04	0.95
Xylene, Gulf Coast, spot, barge, gal.	1.29	1.03	0.95
BUILDING MATERIALS			
Lumber, 2x4 fir, mbf, cl	341.33	341.56	326.95
Lumber 2x4 pine, mbf, cl	337.06	341.28	321.47
Plyform, 3/4", msf, cl	645.91	663.11	570.00
Plywood, 5/8", msf, cl	375.20	388.38	370.22
Cement, type 1, bulk, ton	63.22	63.47	63.88
Sand, concrete, ton, cl	6.88	7.43	7.17
Ready-mix concrete, 3000 psi/cu. yd.	49.28	49.59	48.81
Crushed stone, base course, ton, cl	6.29	6.30	5.84
Concrete blocks, sand/gravel, 8"x8"x16",, per hundred	84.64	84.64	87.17
Reinforcing bars, grade 60; per cwt.	22.04	22.04	21.32
Asphalt paving AC-20, ton	107.32	108.38	108.53
Concrete sewer pipe, 24", prem. joint,, per ft., cl	17.41	18.14	17.90
FUELS			
Crude oil (W. Tx. Int. Cush), bbl.	28.00	20.20	20.40
Diesel (reseller rack, Chi.), gal.	0.77	0.56	0.51
Heating oil No. 2 (N.Y.), gal.	0.77	0.58	0.56
Heating oil No. 2 (Gulf spot), gal.	0.77	0.54	0.48
Fuel oil No. 6 (N.Y.), tank car contract	21.25	18.75	18.75
Gasoline (prem unlded N.Y.), gal.	1.03	0.85	0.78
Gasoline (reg unlded N.Y.), gal.	86.00	0.70	0.59
Kerosine (reseller rack, Chi.), gal.	0.86	0.65	0.60
SCRAP MATERIALS			
Copper, No. 1, brass mill scrap, carload	1.22	1.21	1.03
Copper, No. 1, refineries copper scrap, carload	1.14	1.13	0.98
Copper, No. 2, refineries copper scrap, carload	1.03	1.01	0.89
Copper, No. 1, brass ingot makers', carload	1.10	1.09	0.93
Copper, No. 2, brass ingot makers', carload	0.99	0.97	0.84
Brass, yellow solids, carloads	0.64	0.62	0.57
Aluminum, secondary smelters, old sheet & cast	0.49	0.47	0.43
Aluminum, secondary smelters, mixed clips	0.54	0.53	0.50
Zinc, old, smelters scrap	0.30	0.30	0.35
Zinc, die cast slab, smelters scrap	0.36	0.36	0.37
Steel, no. 1, hvy., dlvd., Pitts., ton	119.00	118.00	99.00
Steel, no. 1, hvy., dlvd., Chi., ton	116.00	116.00	108.00

Sources: Metals week, American Metal Market, Engineering News-Record (20-city averages), America's Textiles International, Journal of Commerce, Chemical Marketing Reporter, Pulp and Paper Week.

* This page has been revised to better serve you.

Adhesives stick to new legislation

In an effort to meet increasing demand and comply with stringent government restrictions on volatile organic compounds (VOCs), adhesive manufacturers are including water-based, high-solid and hot-melt adhesives in their product lines, replacing solvent-based adhesives in many applications.

This is good news for adhesive buyers as smaller amounts of these new compounds are required to complete a job, and disposal costs for nontoxic excess are considerably less.

One disadvantage of water-borne compounds, however, is long drying time compared to their solvent-based counterparts. Under humid conditions, for example, a water-based adhesive could take as long as a day to dry.

The use of dryers and ovens, however, can reduce curing time to as little as 30-40 seconds, says Lal Teckchandani, Uniroyal Adhesives and Sealants Co. "Actual usage costs [of the water-based adhesives] can offset the cost of buying and using a dryer," Teckchandani said.

Technological advances are making the water-based compounds as strong and versatile as solvent bases. The Silaprene® line of water-based adhesives from Uniroyal, for example, has multi-purpose applications including bonding vinyl film to substrates such as ABS, fiberboard, chipboard and fiberglass boards. It also bonds vinyl materials to auto doors and dashboard panels. Although the adhesive has an open tack time of five hours before being heat activated in the thermoforming process, once dry it can retain its bonding properties between -60 and 250 F.

Mobay Corporation is continuing work on its line of Dispercoll aqueous polyurethane dispersions. These adhesives contain less than 1% solvent, compared with the 60-80% level typical of solvent systems. The line includes various products for a wide range of applications, from automotive weatherstripping to bonding fabric to particle board.

By Nan Webb

U.S. HOT MELT ADHESIVES DEMAND BY MARKET

(Million pounds)

Item	1988	1993	% Annual growth 93\88
Packaging:	507	585	2.9
Paperboard	394	450	2.7
Tapes and labels	67	85	4.9
Bags and sacks	46	50	1.7
Nonwoven disposables	88	105	3.6
Furniture	68	80	3.3
Transportation	24	28	3.1
Shoes	23	22	-0.9

Source: The Freedonia Group, Inc.

Growth

Original equipment manufacturers (OEMs) are consuming increasing amounts of adhesives as they manufacture more products made from coated metals. In the appliance industry, for example, mechanical fastening can chip coatings or mar finishes. Other industries which are consuming large amounts of adhesives include automotive, construction, furniture, and electronic equipment.

Increased automation is also broadening the adhesives market. Whereas mechanical fastening and welding create stress points and heat marks, adhesives distribute the weight load across the entire bond for added strength without marking surfaces.

Adhesive shipments grew by an estimated 5% in 1989 and are forecast by the Commerce Department to grow another 7% this year. In the case of hot melt adhesives, price is also rising rapidly—an average of 4% per year due to higher raw material costs and an upgrading to higher performance polymers, according to the Freedonia Group, Cleveland.

Ethylene vinyl acetate (EVA) and its copolymers constitute the largest category of hot melts at about one-third of the market. They are among the least expensive hot melts and are mainly used for general packaging applications.

From the suppliers...

A **solventless technology**, which combines epoxy-based silicone polymers with a proprietary iodonium salt catalyst, has applications in labels, tapes and other pressure-sensitive adhesives (PSAs). This new technology provides release to a variety of adhesives without acrylic lockup. Differential release is possible by blending within the product line. *General Electric Co., Silicone Products Div., Waterford, NY 12188* **Circle 13**

A 58-page color **catalog** provides technical, selection and ordering information for manufacturer's products including: adhesives, coatings, sealants, gasketing compounds, dispensing and curing equipment, and maintenance and repair products. *Loctite Corporation, 705 North Mountain Rd., Newington, CT 06111* **Circle 62**

Long-wearing **Super Instant Epoxy** provides a fast, permanent or temporary bonding where quick handling strength is required. Like or unlike surfaces of almost any joint thickness can be bonded at room temperature without clamping or waiting. Applications include fastening metal fixtures or signs on masonry, automotive repair and maintenance and non-conductive bonding of electrical or electronic parts. *Smooth-On, 1000 Valley Rd., Gillette, NJ 07933* **Circle 20**

A new **low-temperature hot melt** for bulk hot-melt applicators used in packaging provides high-strength bonding without the clogging, charring, skin burns, noxious fumes and other problems caused by the high application temperature of conventional hot-melt adhesives. The adhesive uses a resin/polymer mixture that can be applied as much as 150 degrees below conventional hot melts, says manufacturer. *Ad-Tech, a division of Adhesive Technologies, Inc., 3 Merrill Industrial Dr., Hampton, NH 03842* **Circle 44**

A new **flexible epoxy**, a high peel and shear strength formulation, provides tough, permanent, vibration-resistant bonds for the assembly and repair of automotive, marine, aircraft, truck and tractor parts. The Double-Bubble® single-use package contains a premeasured amount of resin and the correct ratio of hardener which eliminates the need to measure each component before mixing. *Hardman Inc., 600 Cortland St., Belleville, NJ 07109, Fax 201/751-8407* **Circle 50**

Choosing an adhesive

There are several factors to consider when selecting an adhesive/sealant.

✔Consider the product to be bonded or sealed—some adhesives/sealants react poorly with certain metals, and, for safety requirements—as in the aerospace industry—non-flammable adhesives are now available.

✔Determine strength requirements—low-strength adhesives/sealants are designed to meet the requirements of expansion joints in building walls, roofs and roadways; medium-strength products serve a wide variety of consumer and industrial uses; while high-strengths meet severe requirements such as in aerospace sealing and fastening.

✔The adhesive selected must be able to withstand the environment in which it's being used. Adhesives used under machining stresses, for example, need to have an elastic bond to absorb vibrations. Temperature is another factor to consider; adhesives used on car dashboards or windshields must be able to withstand temperatures from -20 up to 180 F. Some, such as iron-oxide-containing acetoxy sealant, are capable of withstanding temperatures over 400 F indefinitely.

✔Consider, too, the application process. High-viscosity adhesives, for example, can't be sprayed well. Also, some solvent-based products have an acetic by-product which can be irritating to personnel in poorly ventilated work areas.

A 100% **solids adhesive** mixes easily for coil fabrication and coil repair applications such as shorted turns and damaged end wire extensions. It develops strong bonds to metals, glass and ceramics as well as to most types of coil coatings and to insulators. *Tra-Con Inc., 55 North St., Medford, MA 02155* **Circle 66**

The BP700 **Adhesion Promoter** is a clear, two-component urethane product that greatly increases adhesion on new hard-to-stick-to OEM baked enamels or cured air dry acrylic and urethane enamels. Requiring only a thin, fast-drying coat, BP700 involves an almost wet-on-wet application and needs only about 10 minutes before the color coat can be applied. *BASF America, 19855 West Outer Dr., Suite 401 East, Dearborn, MI 48124* **Circle 68**

PIG® putty is an **epoxy in putty form** for use on a wide variety of materials including metals, wood, masonry, glass, ceramics and porcelain and is available in a seven-inch putty stick. Like traditional epoxies, PIG putty contains two separate materials that, when mixed together, create a permanent, tough seal for holes, cracks and broken parts. *New PIG Corporation, One Pork Ave., Tipton, PA 16684-0304* **Circle 70**

A new **all-weather EPDM sealant** has been specially formulated to provide long-lasting, weather-tight seals to metals that have been oil-milled. Applications of the Silaprene All-Weather Sealant include sealing of metal parts on recreational vehicles, trucks, buses, metal buildings and manufactured homes. Service temperatures range from -65 F to 220 F. *Uniroyal Adhesives and Sealants Co., Inc., 312 North Hill St., Mishawaka, IN 46544-1399* **Circle 80**

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